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WIDEBAND COMMUNICATIONS EQUIPMENT, GROUND RADIO COMMUNICATIONS,--ETC(U)
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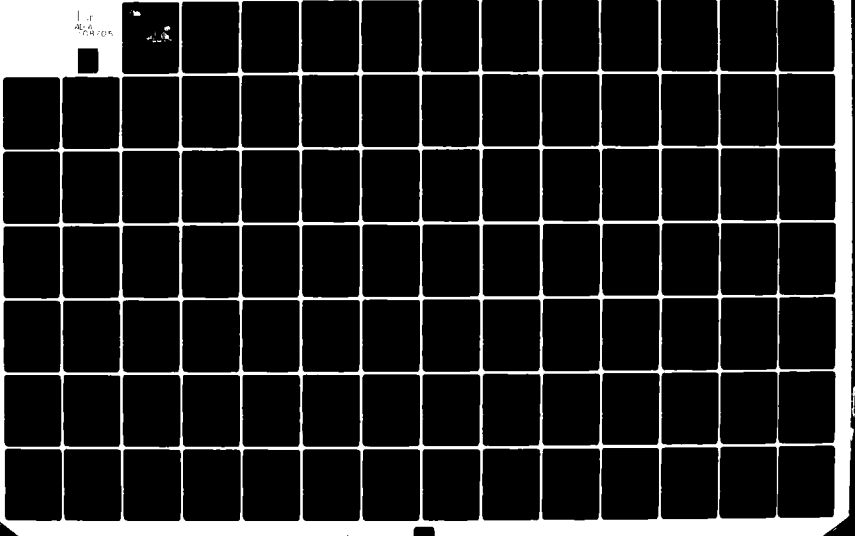

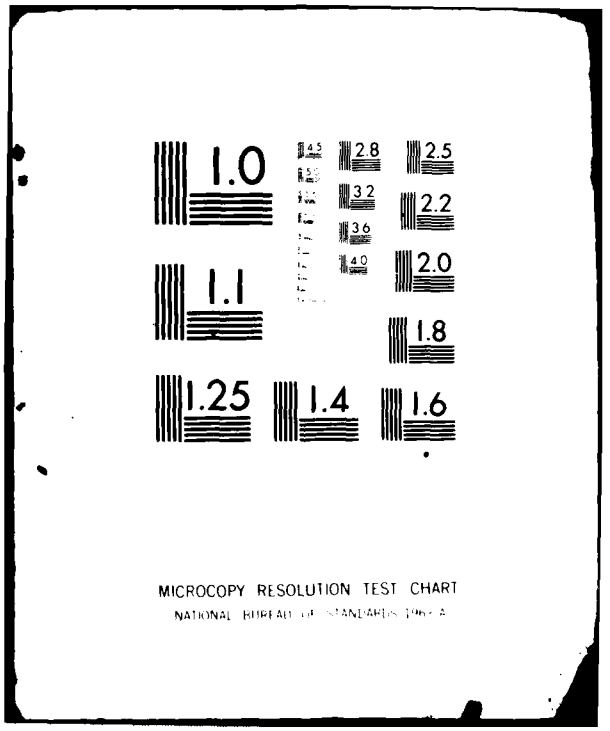
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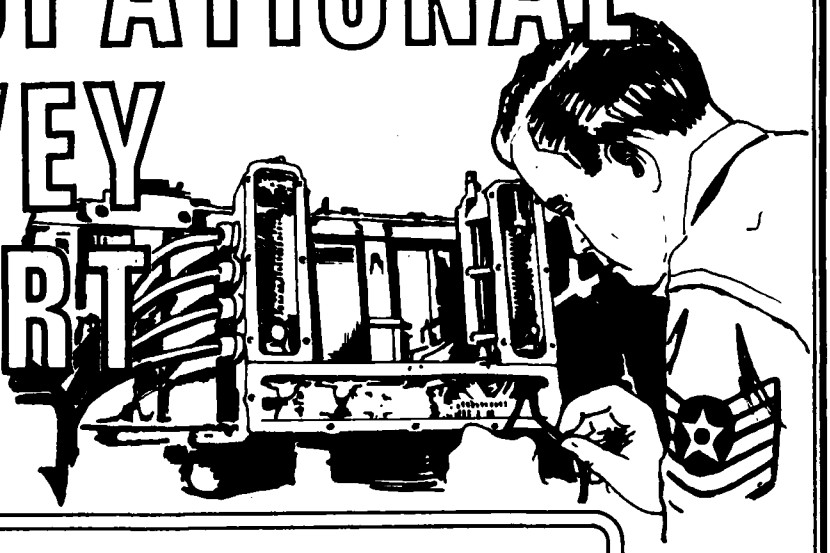
NATIONAL BUREAU OF STANDARDS 1963-A

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT



WIDEBAND COMMUNICATIONS EQUIPMENT, GROUND RADIO COMMUNICATIONS, AND SPACE COMMUNICATIONS SYSTEMS EQUIPMENT SPECIALTIES

AFSs 304X0/304X4/304X6
AFPT 90-304-422
VOL I OF IV
NOVEMBER 1981

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
RANDOLPH AFB, TEXAS 78150

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OL-B, 3300 TECH TNG ADVISOR (AFCC & MAC)	1	1

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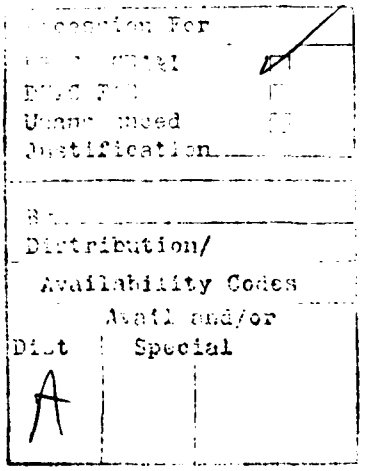


PREFACE

This report presents the results of a detailed Air Force Occupational Survey of the Wideband Communications Equipment (AFS 304X0), Ground Radio Communications (AFS 304X4) and Space Communications Systems Equipment (AFS 304X6) career ladders. The report was prepared for AFMPC/MPCRPQ in response to their request for occupational data on the tasks and jobs performed by 304X0, 304X4, and 304X6 personnel, with primary emphasis on the possible merger of the three career ladders. Authority for conducting surveys is contained in AFR 35-2. Computer outputs from which this report was produced are available for use by operating and training officials.

The Air Force occupational survey program has been in existence since 1956 when initial research was undertaken by AFHRL (Air Force Systems Command) to develop a methodology for gathering and analyzing occupational information. In 1967, an operational occupational survey program was established within the Air Training Command and surveys were produced annually for 12 enlisted specialties. In 1972, the program was expanded to conduct occupational surveys covering 51 career fields annually. In late 1975, the program was again expanded to include the survey of officer utilization fields, to permit special management applications projects, and to support interservice or joint service occupational analysis.

The survey instrument used in the present project was developed by First Lieutenant Julia Hoskins, Inventory Development Specialist. First Lieutenant Gordy Curphy analyzed the survey data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Jimmy L. Mitchell, Chief, Airman Career Ladders Analysis Section, Occupational Analysis Branch, USAF Occupational Measurement Center, Randolph AFB, Texas 78150.

Copies of this report have been distributed to the organizations on the preceding page. Copies are also available for other interested training and management personnel upon request to the USAF Occupational Measurement Center, attention to the Chief, Occupational Analysis Branch (OMY), Randolph AFB, Texas 78150.

This report has been reviewed and is approved.

PAUL T. RINGENBACH, Col, USAF
Commander
USAF Occupational Measurement Center

WALTER E. DRISKILL, Ph.D.
Chief, Occupational Analysis Branch
USAF Occupational Measurement Center

SUMMARY OF RESULTS

1. Survey Coverage: Inventory booklets were administered to Wideband Communications Equipment (AFS 304X0), Ground Radio Communications (AFS 304X4), and Space Communications Systems Equipment (AFS 304X6) personnel worldwide. Survey results are based on the responses of 3,010 AFS 304XX incumbents (approximately 39 percent of assigned). AFS 304X4 personnel make up 55 percent of the sample, AFS 304X0 33 percent, and AFS 304X6 personnel make up the remaining 12 percent of the sample.

2. Career Ladder Structure: A total of 31 different major job groups were identified. DAFSC 304X0, 304X4, and 304X6 personnel were found to be performing distinctly different technical radio maintenance type jobs. Only with jobs involving supervision, administration, or training were substantial percentages of personnel from all three career ladders found.

3. DAFSC Analysis: A comparison of the tasks performed by 5-skill level personnel across all three specialties reveals that approximately 30 of the 863 tasks in the job inventory are performed by at least 30 percent of 30450, 30454, and 30456 personnel. Most of these tasks are administrative in nature or involve general maintenance type functions. However, a number of tasks were found to be relatively unique to each specialty, such as satellite operations tasks with DAFSC 304X6 personnel, and were correspondingly performed by very low percentages of personnel in the other two specialties. An examination of the type of equipment maintained by 5-skill personnel reveals that very few types of 304X0 equipment are maintained by substantial percentages of 304X4 or 304X6 personnel, and vice versa. It was noted that there are many common types of test equipment utilized by 5-skill personnel from all three specialties.

4. Analysis of Electronic Principles: DAFSC 304X6 personnel were noted to use the highest number of electronic principles subject areas, followed closely by DAFSC 304X4 personnel. While many of the subject areas were used in common across the specialties, a number of subject areas were noted as being peculiar to only one career ladder.

5. Training Analysis: Due to the disparity of radio maintenance and operations jobs performed by the personnel in the three specialties, the possibility of providing comprehensive basic resident training, to the same degree of proficiency as that which is currently provided, appears slim for a combined AFSC. An analysis of the relative difficulty of tasks reveals a high degree of agreement among the 127 task difficulty raters from all three specialties.

6. Implications: Based on the analysis of tasks and jobs performed by 304X0, 304X4, and 304X6 personnel, a merger of these three specialties does not appear feasible at this time. In addition to task differences, job satisfaction, equipment, and electronic principle differences were noted for the personnel in the three specialties. All of these factors would have a negative impact on the overall 304XX career field if the three career ladders were consolidated.

OCCUPATIONAL SURVEY REPORT
WIDEBAND COMMUNICATIONS EQUIPMENT, GROUND RADIO COMMUNICATIONS, AND SPACE COMMUNICATIONS SYSTEMS EQUIPMENT SPECIALTIES
(AFSs 304X0, 304X4, AND 304X6)

INTRODUCTION

This is a report of an occupational survey of the Wideband Communications Equipment, Ground Radio Communications, and Space Communications Systems Equipment specialties (AFSs 304X0, 304X4, and 304X6) completed by the Occupational Analysis Branch, USAF Occupational Measurement Center, in September 1981. The survey was initiated at the request of AFMPC/MPCRPQ to determine the feasibility of combining the three specialties into one common specialty. Results of the assessment of the feasibility of combining the three specialties are presented specifically in this report. Individual reports for the 304X0 (Wideband Communications Equipment), 304X4 (Ground Radio Communications), and 304X6 (Space Communications Systems Equipment) career ladders are also available (AFPT 90-304-422 Volumes II, III, and IV), which present more detailed analyses for each respective specialty.

Background

Members of all three specialties perform maintenance on ground based radio systems and associated equipment. Personnel in the Wideband Communications Equipment career ladder (304X0) are primarily an AFCC resource and are responsible for installing, maintaining, and modifying fixed, mobile, and transportable wideband communications systems, including tropospheric scatter and line-of-sight radio, analog and digital multiplex, and intrusion detection systems. Ground Radio Communications personnel (304X4) are also primarily an AFCC resource, and are responsible for the installation and maintenance of fixed and transportable radios and associated equipment, including AM, FM, SSB, and ISB applicable to point-to-point, ground-to-air, facsimile, LF, HF, VHF, and UHF systems. Finally, Space Communications Systems Equipment (304X6) personnel are responsible for the operation and maintenance of the ground equipment utilized to communicate with and receive transmissions from communications satellites. These personnel are also an AFCC resource, and some of the duties they perform include calculating timing and orbital parameters, establishing communications links with distant earth terminals via communications satellites, and operating earth terminal control consoles.

In order for the personnel in all three career ladders to perform their respective jobs properly, formal training for the 304X0, 304X4, and 304X6 career ladders is conducted at Keesler AFB, MS. The 3ABR30430 Radio Relay Repairman course is 110 days in length, with approximately 1,000 incumbents per year successfully completing the course. The 3ABR30434 Ground Radio Repairman course is 115 days long, and approximately 1,300 incumbents per year successfully complete the course. Finally, the 3ABR30436 Space Communications Systems Equipment courses total 160 days in length, and approximately 240 individuals per year successfully

complete the course. Upon graduation from any of the above three courses, personnel are awarded the 3-skill level in their respective AFSCs and are assigned to various units worldwide.

Objectives

This report will examine the Wideband Communications Equipment, Ground Radio Communications, and Space Communications Systems Equipment specialties on the basis of tasks performed and the time spent on these tasks by survey respondents. Using occupational survey data along with other sources, Air Force managers can determine the most efficient way to classify and manage these manpower resources. Topics discussed in this report include: (1) development and administration of the survey instrument; (2) the job structure relationship of the career field in regards to AFSC and experience level; (3) comparisons between specialties; (4) the relative difficulty of survey tasks; and (5) job satisfaction and other related data. Specific topics discussed in the supplemental reports for each specialty include: (1) the job structure of the individual specialties and their relationship to respective skill and experience level groupings; (2) comparisons of specialty responsibilities to AFR 39-1 Specialty Descriptions; (3) CONUS versus overseas distinctions; (4) Major Command comparisons; (5) task factors in relation to the Specialty Training Standards (STS); and (6) job satisfaction and related background information.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory AFPT 90-304-422. As a starting point, the tasks listed in the 1975 304X0, the 1976 304X4, and the 1976 304X6 job inventories were reviewed for currency by the Inventory Development Specialist and Instructors from each specialty at Keesler Technical Training Center. Pertinent career ladder publications and directives were also reviewed for additional radio related tasks. From this process, a new tentative task list was developed. This tentative task list was then reviewed for completeness and accuracy by 304X0, 304X4, and 304X6 personnel at Andrews AFB MD, Tinker AFB OK, Robins AFB GA, and Offutt AFB NE. The resulting task list was reviewed again by Keesler Technical Training Center Instructors. This final review of the task list was accomplished by getting 304X0, 304X4, and 304X6 Training Instructors together in a face-to-face encounter in order to insure the tasks were representative of the jobs performed by 304X0, 304X4, and 304X6 personnel. This encounter helped to insure that the skills and knowledges needed to perform a task were the same, regardless of the equipment associated with the task. For example, wiring diagrams of transmitter equipment using amplifiers were presented during the encounter, and the Training Instructors debated on whether the skills and knowledges were similar across the three specialties. If they were similar, then only one task was written, such as "isolate AM receiver malfunctions". If the skills and knowledges differed to some degree, then a number of more equipment specific tasks were written, such as "isolate malfunctions in GIANT TALK control consoles". Another

example of this type of commonality discussion centered around components of various systems. In this study, there was a consensus that most components removed or replaced required the same skill no matter what system they were located in. For example, the task "adjust limiter components" indicates that the skill is the same no matter what equipment it is located in.

This process resulted in a final job inventory of 863 tasks grouped under 23 duty headings. In addition, a background section which included information about each respondent, such as grade, Total Active Federal Military Service (TAFMS), duty title, job interest, and the type of radio system maintained or operated was also included.

Job Inventory Administration

During the period October 1980 through February 1981, Consolidated Base Personnel Offices in operational units worldwide administered the inventory to 50 percent of the job incumbents holding a DAFSC of 304X0, 304X4, or 304X6. These job incumbents were identified using AFMPC personnel data tapes available through the Air Force Human Resources Laboratory (AFHRL).

Each individual who filled out an inventory first completed an identification and biographical information section and then checked each task performed in their current job. After checking all tasks performed, each member then rated each of these tasks on a nine-point scale showing relative time spent on the task as compared to all other tasks checked. The ratings ranged from one (very small amount time spent) through five (about average time spent) to nine (very large amount time spent).

To determine relative time spent for each task checked by a respondent, all of an incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task is then divided by the total task ratings and multiplied by 100. This procedure provides a basis for comparing tasks in terms of both percent members performing and relative percent time spent.

Task Factor Administration

In addition to completing the job inventory, selected senior 304X0, 304X4, and 304X6 personnel were also asked to complete a second booklet for task difficulty. The task difficulty rating booklets are processed separately from the job inventories. This information is used in a number of different analyses discussed in more detail within the report.

Task Difficulty. Each senior NCO completing a task difficulty booklet was asked to rate all of the tasks on a nine-point scale from extremely low to extremely high as to the relative difficulty of that task. Difficulty is defined as the length of time it requires an average member to learn to do that task. Task difficulty data were independently solicited from experienced 7- or 9-skill level personnel stationed worldwide in each specialty. The interrater reliability (as assessed through components of variance of standard group means) for the 127 DAFSC 304X0, 304X4, and 304X6 raters who returned

booklets was .97, which is very high agreement. Ratings were then adjusted so that tasks of average difficulty have ratings of 5.0. The resulting data is a rank ordering of tasks indicating a degree of difficulty for each task in the inventory.

Job Difficulty Index. After computing the task difficulty index for each item, it is then possible to compute a Job Difficulty Index (JDI) for the job groups identified in the survey analysis. This index provides a relative measure of which jobs, when compared to other jobs identified, are more or less difficult. An equation using the number of tasks performed and the average difficulty per unit time spent as variables are the basis for the JDI. This index ranges from one for very easy jobs to 25 for very difficult jobs. The data are adjusted so that the average job difficulty index is 13.00. Thus, the more time a group spends performing difficult tasks, and the more tasks they perform, the higher will be their job difficulty index. The JDI ratings for the 304X0, 304X4 and 304X6 career ladders can be found in the CAREER LADDER STRUCTURE section of this report.

When used in conjunction with other factors, such as percent members performing, the task difficulty ratings can provide insight into the training requirements of the specialty. This may help validate the lengthening or shortening of specific units of instruction to refine various training programs.

Survey Sample

Personnel were selected to participate in this survey so as to insure an accurate representation across all career ladders, MAJCOMs, and paygrade groups. In this study, 50 percent of the incumbents with a 304X0, 304X4, or 304X6 DAFSC who were available for sampling were solicited for their responses. Table 1 reflects both the percentage of personnel in all three career ladders in the combined sample as well as the major command distribution of personnel assigned to each career ladder as of the Spring of 1981. Table 2 reflects the percentage distribution by paygrade for each ladder. Table 3 reflects the distribution of the survey sample in terms of TAFMS groups. Overall, a representative sample was obtained, with 3,010 of the 7,720 respondents (39 percent) assigned to these three career ladders sampled.

Data Processing and Analysis

Once job inventories are returned from the field, they are prepared so that task responses and background information can be optically scanned. Other biographical information (such as name, base, autovon extension) is keypunched onto disks and entered directly into the computer. Once both sets of data are in the computer, they are merged to form a complete case record for each respondent. Computer generated programs using Comprehensive Occupational Data Analysis Programs (CODAP) techniques were then applied to the data.

CODAP produces job descriptions for respondents based on their responses to specific inventory tasks. Computer generated job descriptions are available for DAFSC groups, TAFMS groups, and MAJCOM groups, and

include such information as percent members performing each task, the average percent time spent performing each task, the percent members utilizing various pieces of equipment, and the cumulative average percent time spent by all members for each task in the inventory.

TABLE 1

COMMAND DISTRIBUTION OF SURVEY SAMPLE

MAJOR COMMAND	AFS 304X0		AFS 304X4		AFS 304X6		AFS 304XX	
	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
ATC	2	3	4	4	6	11	3	5
TAC	7	9	9	9	-	-	8	8
USAFE	3	10	-	4	-	1	1	5
AFCC	72	70	63	67	83	85	68	70
ESC	-	-	10	7	-	-	6	4
MAC	-	-	2	3	-	-	1	1
OTHER	16	8	12	6	11	3	13	7
	100	100	100	100	100	100	100	100

TOTAL 304XX ASSIGNED: 7,720
TOTAL 304XX SURVEYED: 3,858
USEABLE SURVEYS RETURNED: 3,010
RETURN RATE: 78%

TOTAL 304X0 ASSIGNED: 2,825
TOTAL 304X0 SURVEYED*: 1,278
USEABLE SURVEYS RETURNED: 996
RETURN RATE: 78%
PERCENT OF 304X0 SURVEYS IN TOTAL SAMPLE: 33%

TOTAL 304X4 ASSIGNED: 4,286
TOTAL 304X4 SURVEYED*: 2,108
USEABLE SURVEYS RETURNED: 1,618
RETURN RATE: 77%
PERCENT OF 304X4 SURVEYS IN TOTAL SAMPLE: 55%

TOTAL 304X6 ASSIGNED: 609
TOTAL 304X6 SURVEYED*: 472
USEABLE SURVEYS RETURNED: 361
RETURN RATE: 76%
PERCENT OF 304X6 SURVEYS IN TOTAL SAMPLE: 12%

"-" DENOTES LESS THAN ONE PERCENT

* DUE TO THE LARGE SIZE OF THE THREE AFSCs COMBINED, BOOKLETS WERE MAILED TO ONLY 50 PERCENT OF THE TOTAL PERSONNEL ASSIGNED.

TABLE 2

PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

	AFS 304X0		AFS 304X4		AFS 304X6	
PAYGRADE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE	PERCENT OF ASSIGNED	PERCENT OF SAMPLE
AIRMAN	38	38	23	23	31	22
E-4	19	19	26	25	24	24
E-5	21	21	26	28	22	25
E-6	13	14	15	15	16	19
E-7	9	8	10	9	7	10
TOTAL	100	100	100	100	100	100

TABLE 3

TAFMS DISTRIBUTION OF SURVEY SAMPLE

	MONTHS TIME IN SERVICE			
AFS	1-48	49-96	97+	TOTAL
304X0				
NUMBER IN SAMPLE:	495	147	352	996
PERCENT OF 304X0 SAMPLE:	50%	15%	35%	100%
304X4				
NUMBER IN SAMPLE:	605	354	655	1,614
PERCENT OF 304X4 SAMPLE:	38%	22%	40%	100%
304X6				
NUMBER IN SAMPLE:	147	50	163	36[illegible]
PERCENT OF 304X6 SAMPLE:	41%	14%	45%	100%

CAREER LADDER STRUCTURE

In order to properly classify, train, or manage personnel in a career ladder, it is necessary to determine the types of jobs which are performed by the personnel in the ladder. This section of an Occupational Survey Report examines and describes the types of jobs performed, the types of equipment maintained, and the reported job satisfaction of personnel performing different jobs in a career ladder. In addition, as in the case with the 304X0, 304X4, and 304X6 career ladders, this analysis can determine if people in different specialties are performing the same or different types of jobs. This can help to provide inputs to training and classification personnel as to which specialties could be merged based on tasks and their respective time spent ratings.

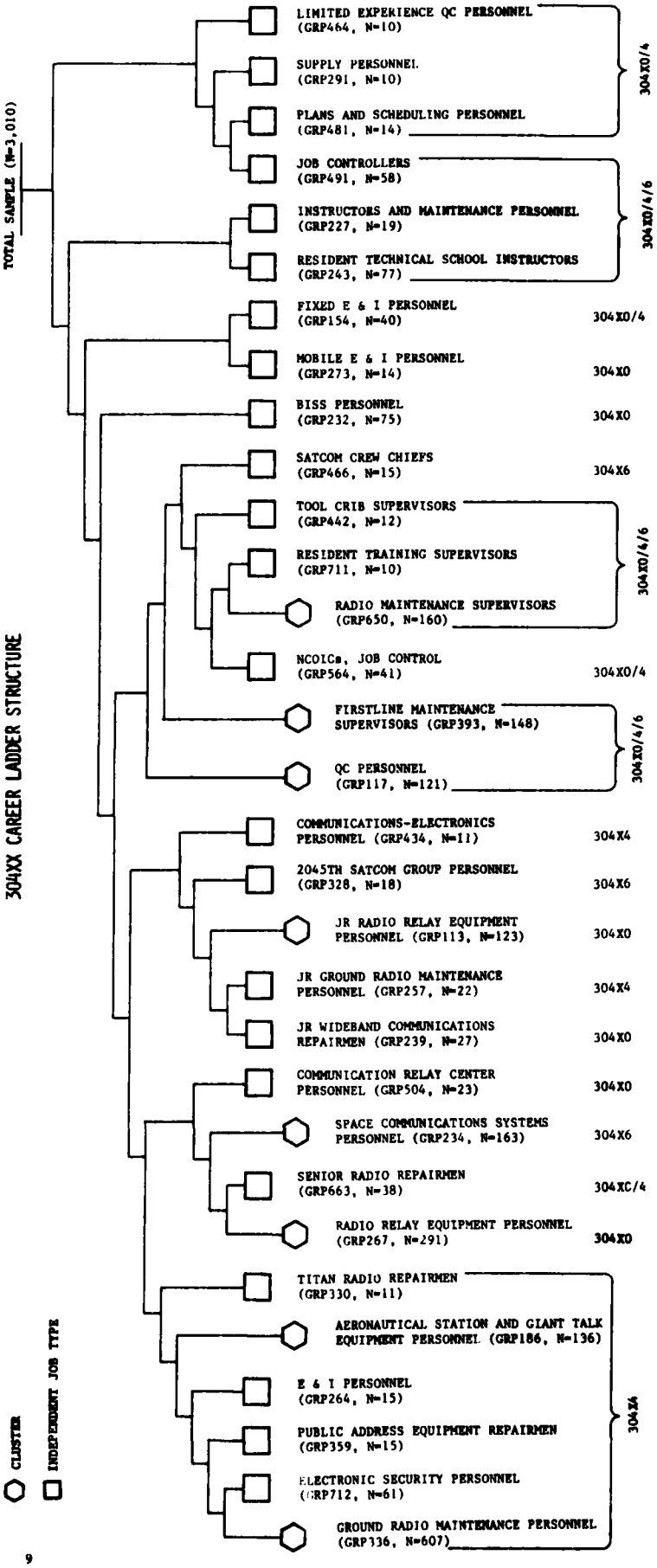
For the purpose of organizing individual jobs into similar units of work, an automated job clustering program is used. This hierarchical grouping program is a basic part of the Comprehensive Occupational Data Analysis Program (CODAP) system for job analysis. Each individual job description in the sample is compared to every other job description in terms of the tasks performed and the relative amount of time spent on each task in the job inventory. The automated system is designed to locate the two job descriptions with the most similar patterns of tasks and percent time ratings and combine them to form a composite job description. In successive stages, members are added to initial groups or new groups are formed based on the similarity of tasks and percent of time ratings in each individual job description. This procedure is continued until all individuals and groups are combined to form a single composite representing the total sample. The resulting analysis of the variety of groups of jobs serves to identify: (1) the number and characteristics of the different jobs which exist within the career ladders; (2) the tasks which tend to be performed together by the same respondents; and (3) the breadth or narrowness of the jobs which exist within the radio maintenance career ladders.

The basic identifying group used in the hierarchical job structuring process is the Job Type. A job type is a group of individuals who perform many of the same tasks and spend similar amounts of time performing them. (However, due to the large number and diversity of job types identified in each of the three career ladders, job types will not be discussed in this report. Both a narrative and graphic description of the job types identified for each career ladder is available in the respective career ladder Occupational Survey Reports, AFPT 90-304-422, Volumes II, III, and IV.) When there is a substantial degree of similarity between different job types, they are grouped together and labeled as Clusters. In many career ladders, there are specialized job types that are too dissimilar to be grouped into any cluster. These unique groups are labeled Independent Job Types.

The jobs performed by the radio maintenance career ladder incumbents are illustrated in Figure 1. Based on the similarity of tasks performed and the amount of time spent performing each task, eight clusters and 23 independent job types were identified. These clusters and independent job types are on the following pages:

FIGURE 1

304XX CAREER LADDER STRUCTURE



I. GROUND RADIO MAINTENANCE PERSONNEL (GRP336, N=607) 304X4

1. ATC Equipment Repairmen (GRP1071, N=188)
2. Mobile Communications Equipment Repairmen (GRP1188, N=82)
3. Control Tower Equipment Repairmen (GRP770, N=62)
4. Technical Control/Radar Facility Radio Repairmen (GRP620, N=47)
5. KWT-6/5 Transceiver Repairmen (GRP700, N=43)
6. AN/TSC-60(V) Communications Central Repairmen (GRP724, N=57)
7. AN/MRC-107 Radio Communications Terminal Repairmen (GRP548, N=21)
8. AN/GRA-53/54 UHF Radio Repairmen (GRP549, N=27)

II. ELECTRONIC SECURITY PERSONNEL (GRP712, N=61) 304X4

III. PUBLIC ADDRESS EQUIPMENT REPAIRMEN (GRP359, N=15) 304X4

IV. ENGINEERING AND INSTALLATION (E&I) PERSONNEL (GRP264, N=15) 304X4

V. AERONAUTICAL STATION AND GIANT TALK EQUIPMENT PERSONNEL (GRP186, N=136) 304X4

1. 208U-3/10 Equipment Repairmen (GRP1120, N=20)
2. Transmitter Site Shift Supervisors (GRP1050, N=10)
3. Ground-to-Air Radio Repairmen (GRP1398, N=11)
4. HF Receiver Repairmen (GRP487, N=28)
5. SCOPE CONTROL/PANEL Equipment Repairmen (GRP835, N=35)

VI. TITAN RADIO REPAIRMEN (GRP330, N=11) 304X4

VII. RADIO RELAY EQUIPMENT PERSONNEL (GRP267, N=291) 304X0

1. Radio Relay Multiplexer Site Personnel (GRP895, N=29)
2. AN/TRC-97A Repairmen (GRP838, N=104)
3. AN/FRC-96/97 Repairmen (GRP643, N=33)
4. AN/FRC-109 Repairmen (GRP609, N=18)
5. AN/FRC-155-165 Series Repairmen (GRP637, N=10)
6. OL-C/D Personnel (GRP543, N=13)
7. Wideband Maintenance Supervisors (GRP391, N=10)
8. Radio Relay OJT Personnel (GRP533, N=11)

VIII. SENIOR RADIO REPAIRMEN (GRP663, N=38) 304X0/4

IX. SPACE COMMUNICATIONS SYSTEMS PERSONNEL (GRP234, N=163) 304X6

1. SATCOM Shift Supervisors (GRP795, N=83)
2. AN/MRC-46 Repairmen (GRP825, N=12)
3. AN/GRC-188 Repairmen (GRP801, N=19)
4. AN/TSC-94 Repairmen (GRP476, N=17)
5. Junior SATCOM Personnel (GRP389, N=14)

X. COMMUNICATION RELAY CENTER PERSONNEL (GRP504, N=23) 304X0

XI. JUNIOR WIDEBAND COMMUNICATIONS REPAIRMEN (GRP239, N=27) 304X0

XII. JUNIOR GROUND RADIO MAINTENANCE PERSONNEL (GRP257, N=22) 304X4

XIII. JUNIOR RADIO RELAY EQUIPMENT PERSONNEL (GRP113, N=123) 304X0

1. Multiplexer Repairmen (GRP283, N=12)
2. AN/TSC-88 Repairmen (GRP337, N=12)
3. AN/MRC-117 Repairmen (GRP379, N=16)
4. Microwave Maintenance Personnel (GRP412, N=14)
5. Mobile Radio Relay Repairmen (GRP225, N=48)

XIV. 2045th SATELLITE COMMUNICATIONS GROUP PERSONNEL (GRP328, N=18) 304X6

XV. COMMUNICATIONS-ELECTRONICS PERSONNEL (GRP434, N=11) 304X4

XVI. QUALITY CONTROL PERSONNEL (GRP117, N=121) 304X0/4/6

1. Senior Quality Control Personnel (GRP510, N=60)
2. HQ Level Quality Control Personnel (GRP513, N=18)
3. Junior Quality Control Personnel (GRP289, N=10)
4. Engineering and Installation QC Personnel (GRP260, N=10)

XVII. FIRSTLINE MAINTENANCE SUPERVISORS (GRP393, N=148) 304X0/4/6

1. Ground Radio Firstline Supervisors (GRP449, N=65)
2. Wideband Firstline Supervisors (GRP591, N=49)
3. Mobility Firstline Supervisors (GRP860, N=15)

XVIII. NCOICs, JOB CONTROL (GRP564, N=41) 304X0/4

XIX. RADIO MAINTENANCE SUPERVISORS (GRP650, N=160) 304X0/4/6

1. Site Superintendents (GRP871, N=19)
2. Workcenter Supervisors (GRP830, N=130)

XX. RESIDENT TRAINING SUPERVISORS (GRP711, N=10) 304X0/4/6

XXI. TOOL CRIB SUPERVISORS (GRP442, N=12) 304X0/4/6

XXII. SATCOM CREW CHIEFS (GRP466, N=15) 304X6

XXIII. BASE INSTALLATION SECURITY SYSTEMS (BISS) PERSONNEL (GRP232, N=75) 304X0

XXIV. MOBILE ENGINEERING AND INSTALLATION PERSONNEL (GRP273, N=14) 304X0

XXV. FIXED ENGINEERING AND INSTALLATION PERSONNEL (GRP154, N=40) 304X0/4

XXVI. RESIDENT TECHNICAL SCHOOL INSTRUCTORS (GRP243, N=77) 304X0/4/6

XXVII.	INSTRUCTORS AND MAINTENANCE PERSONNEL (GRP227, N=19)	304X0/4/6
XXVIII.	JOB CONTROLLERS (GRP491, N=58)	304X0/4/6
XXIX.	PLANS AND SCHEDULING PERSONNEL (GRP481, N=14)	304X0/4
XXX.	SUPPLY PERSONNEL (GRP291, N=10)	304X0/4
XXXI.	LIMITED EXPERIENCE QUALITY CONTROL PERSONNEL (GRP464, N=10)	304X0/4

The respondents forming these clusters and independent job types account for 79 percent of the survey sample. The remaining 21 percent did not group with any of the job types or clusters described above. Some of the titles held by the remaining 21 percent were: AN/FLR-9 Equipment Repairman, Ground Radio Repairman, Quality Control Inspector, SATCOM Instructor, Team Chief, Radio Relay Repairman, Combat Controller, Public Address Technician, NCOIC, White House Executive Office, Missile Radio Superintendent, NCMO Job Controller, and Intrusion System Repairman. These personnel did not group with any cluster or job type because of either the unique job they performed or in the manner in which they perceived their job.

Overview

Generally, a majority of the personnel in each of the three career ladders perform distinctly different jobs, with relatively few jobs being comprised of personnel from more than one career ladder. This is particularly true with the maintenance oriented jobs performed, since only one job (Senior Radio Repairmen) is performed by more than 25 percent of the personnel from more than one specialty. Many of the nonmaintenance oriented jobs, such as those involving primarily supervision, administration, training, quality control, etc., are performed by substantial percentages of personnel from more than one specialty. Examples of these common jobs include NCOICs, Job Control, Radio Maintenance Supervisors, or Quality Control Personnel. Overall, however, the differences in the jobs performed appear to be too great to warrant any possible consolidation of these AFSCs at this time.

Brief descriptions about each cluster and independent job type are presented below. These descriptions, as well as the 12 tables at the end of this section, reveal not only specific information pertaining to individual jobs, but more importantly, they help to make comparisons concerning the similarity or dissimilarity of jobs performed by the personnel in all three specialties.

As mentioned earlier, there are three types of tables (Tables 4-15) at the end of this section which provide additional information for each of the major job groups identified. Tables 4-7 provide the relative percent time spent on duties by the personnel in each major job group. These tables give a general overview of each job and reveal which electronics or supervisory functions the personnel from each major job group concentrate on performing. For example, Table 4 reveals that Electronic Security Personnel concentrate on maintaining receivers (26 percent of their job time), maintaining common or

miscellaneous subassemblies (19 percent), or performing general maintenance functions (18 percent). This can be contrasted with Resident Technical School Instructors from Table 7, who seem to concentrate on training functions. These tables can be very useful when comparing the types of functions personnel concentrate on performing in different major job groups.

Tables 8-11 also are very useful when comparing major job groups. This group of four tables provide various types of background information, such as average months TAFMS, DAFSC distribution, equipment maintained, etc. and helps to describe many of the demographic factors associated with the job. For example, by examining 2045th Communications Group Satellite Personnel, Table 9 reveals these personnel all work with the AN/GRC-189, all are located in CONUS, 89 percent are first-termers, and 56 percent hold the 3-skill level. These demographic factors can be easily contrasted with Satellite Communications Crew Chiefs, with Table 10 revealing that only 13 percent work with the AN/GRC-189, 27 percent are located overseas, none are in their first enlistment, and 73 percent hold the 7-skill level.

Finally, Tables 12-15 reveal job satisfaction and related data for each major job group. These tables quickly point out which jobs in the three specialties appear to be the most satisfying and which appear the least. Management should closely examine these tables in that they also reveal the reenlistment intentions for the personnel in each major job group, and can reveal which jobs have the most severe potential retention problems. Based on Tables 12-15, Junior Ground Radio Maintenance Personnel, Junior Wideband Communications Repairmen, Junior Radio Relay Equipment Personnel, 2045th Communications Group Satellite Personnel and Mobile Engineering and Installation Personnel have below average reenlistment intentions, and management needs to be aware of the potential problems concerning manning, training, etc., that could occur with the potential substantial loss of personnel from the above major job groups.

Also included in this report is an appendix concerning the three career ladders. Appendix A lists the common tasks performed by members for each of the clusters and independent job types identified in this section. These task tables provide additional insight into the type of job performed by the personnel in the major job groups.

Job Group Descriptions

I. GROUND RADIO MAINTENANCE PERSONNEL (GRP336). This cluster of 607 respondents is the largest in the sample, with practically all of these personnel holding DAFSC 304X4. These incumbents are responsible for maintaining both fixed and transportable transmitters, receivers, point-to-point, ground-to-air LF, HF, VHF, and UHF systems. Some of the typical equipment these incumbents maintain include the AN/GRC-171, AN/GRC-175, and AN/GRR-24, which are often used for air traffic control at various air bases. Typical tasks performed by these AFS 304X4 personnel include:

isolating malfunctions in UHF power amplifiers
perform PMIs on AM receivers
perform PMIs on AM UHF transmitters or exciters
adjust automatic gain control (AGC) components
align transceivers

These incumbents perform a fairly high number of tasks (125) and perform a job above average in difficulty (JDI equals 16.4, see INTRODUCTION for explanation of JDI). These incumbents appear to be fairly satisfied with their job, with 75 percent finding their job interesting and 87 percent perceiving their training is utilized at least fairly well.

II. ELECTRONIC SECURITY PERSONNEL (GRP712). These 61 personnel are all Electronic Security Command resources which are primarily responsible for maintaining the AN/FLR-9. This radio system is primarily used to monitor communications and to determine that communication's origin. All of the DAFSC 304X4 personnel performing this job hold either the 5- or 7-skill level, and typical tasks performed by these incumbents include:

align AM receivers
perform PMIs on recorders or reproducers
adjust audio amplifier components
secure classified materials
remove or replace electronic subassemblies

As expected, a majority of these respondents are located overseas (95 percent) and are fairly senior (only 16 percent in their first enlistment). These incumbents are somewhat less satsified than the above major job group, with only 64 percent finding their job interesting and 45 percent planning to reenlist.

III. PUBLIC ADDRESS EQUIPMENT REPAIRMEN (GRP359). These 15 DAFSC 304X4 personnel maintain many of the same types of air traffic control equipment as Ground Radio Maintenance Personnel, such as the AN/GRC-171, AN/GRC-175, and AN/GRR-24. However, these incumbents seem to concentrate more on maintaining the recording and reproducing equipment associated with maintaining public address systems than the above major job group. Representative tasks performed by these incumbents include:

perform PMIs on recorders or reproducers
isolate malfunctions in recorders or reproducers
adjust squelch circuit components
set up or remove public address systems
adjust public address system components

These incumbents are fairly junior, with 40 percent holding the 3-skill level and 80 percent are in their first enlistment. These incumbents are among the most satisfied of all major job groups, with 80 percent finding their job interesting and 100 percent perceiving their training is being utilized at least fairly well.

IV. ENGINEERING AND INSTALLATION (E&I) PERSONNEL (GRP264). Rather than maintaining radio or associated equipment, these 15 DAFSC 304X4 respondents are responsible for the installation of electronic equipment worldwide. Somewhat unexpectedly, these incumbents appear to be fairly junior, with 40 percent holding the 3-skill level and 67 percent still in their first enlistment. Typical tasks performed by these incumbents are installation or operationally oriented, and include:

crate or uncrate components or modules
splice wiring or cables
perform system modifications
install or remove mounting equipment
perform preoperational checks of equipment

Since these incumbents are primarily installing equipment, fairly low percentages of these respondents report maintaining any type of equipment. E & I Personnel seem to be fairly satisfied with their job, with 93 percent finding their job interesting and 73 percent perceiving their talents are utilized fairly well or better.

V. AERONAUTICAL STATION AND GIANT TALK EQUIPMENT PERSONNEL (GRP186). These 136 304X4 incumbents maintain the ground-to-air radios and associated radio equipment found at aeronautical stations and GIANT TALK facilities, such as the 208U-3, 208U-10, or R-390A. Many of the tasks these incumbents perform involve maintaining universal radio group (URG), frequency shift keying (FSK), or allotter components, such as:

isolate malfunctions in allotter presets
adjust URG status display readout components
adjust URG data bypass equipment components
adjust frequency shift keying (FSK) telephone components
adjust line amplifier components

The personnel maintaining aeronautical station and GIANT TALK equipment seem to be fairly senior (averaging 79 month TAFMS) and 55 percent are located at overseas locations. These incumbents perform a fairly difficult job (JDI equals 15.9), and appear to be fairly satisfied with their job, with 85 percent perceiving their talents are utilized at least fairly well and 53 percent planning to reenlist.

VI. TITAN RADIO REPAIRMEN (GRP330). These 11 DAFSC 304X4 incumbents are located at the three primary Titan missile locations and are responsible for maintaining the AN/GRC-117 radio system used in the missile complexes. The AN/GRC-117 is a hardened, survivable communications system which provides simultaneous voice and digital communications prior to and following an atomic attack. These incumbents are fairly junior, averaging only 37 months TAFMS and 73 percent are in their first enlistment. Typical tasks performed by these personnel while maintaining the AN/GRC-117 include:

adjust driver, intermediate power, or transmit facility link amplifier components
perform PMIs on FM UHF transmitters, exciters, or up converters
adjust automatic fault sensing and switching network components
isolate malfunctions in FM tube type UHF transmitters or exciters

It is interesting to note that these incumbents are among the most satisfied of all major job groups. Eighty-two percent of these incumbents find their job interesting, 100 percent perceive their job utilizes their talents and training at least fairly well, and 64 percent plan to reenlist.

VII. RADIO RELAY EQUIPMENT PERSONNEL (GRP267). While all of the previous major job goups consisted primarily of DAFSC 304X4 personnel, the 291 incumbents in this cluster almost exclusively hold DAFSC 304X0. These incumbents maintain fixed, mobile, and transportable wideband communications systems, some of which include tropospheric scatter and line of sight radios as well as both digital and analog multiplex equipment. The primary piece of radio equipment maintained by these incumbents is the AN/TRC-97A, which is a line-of-sight or tropospheric scatter microwave radio set which consists of a self-contained transportable shelter with various radio set configurations. Typical tasks performed by these respondents include:

adjust pilot tone detector components
align frequency division multiplexers
adjust frequency modulation (FM) detector or discrimination components
establish orderwire contact with distant terminals

Sixty-three percent of these incumbents hold the 5-skill level, and 58 percent are in their first enlistment. Sixty-four percent are stationed overseas; 70 percent perceive their job as interesting.

VIII. SENIOR RADIO REPAIRMEN (GRP663). This independent job type of 38 personnel is the only maintenance oriented major job group with substantial percentages of personnel from more than one specialty. While most of these incumbents hold DAFSC 304X0 (73 percent), 21 percent also hold DAFSC 304X4. The most distinguishing aspect of the job these respondents perform concerns the average number of tasks, with these incumbents performing an average of 275 tasks (the highest average of all major job groups). Somewhat relatedly, these incumbents also perform the most difficult job, having a JDI of 25. Typical tasks performed by these incumbents include:

adjust high voltage power supply components
adjust audio amplifier components
align FM receivers
adjust sideband demodulator or balanced mixer components
adjust local oscillator components

These respondents maintain a large variety of radio equipment, (which is probably due to the fact that both the 304X0 and 304X4 specialties are represented in this major job group) some of which include the AN/TRC-97A, AN/FCC-17, AN/UCC-4, and AN/GSS-29. These incumbents are relatively senior (averaging 90 months TAFMS), and 78 percent find their job interesting.

IX. SPACE COMMUNICATIONS SYSTEMS PERSONNEL (GRP234). This cluster of 163 304X6 personnel is responsible for maintaining and operating various types of Defense Satellite Communications System (DSCS), Air Force Satellite Communications System (AFSATCOM), Tactical Satellite Communications System (TACSATCOM), and Ground Mobile Forces (GMF) earth terminals. This involves calculating orbital and timing parameters, establishing communications links with distant earth terminals via satellite, and maintaining and modifying earth terminal equipment. Typical tasks performed by these incumbents include:

perform PMIs on tracking systems
configure patch panels for digital operations
establish orderwire contact for distant terminals
bleed or pressurize systems
perform tracking functions

Some of the more common types of equipment operated or maintained by these personnel are the fixed AN/FSC-78 and the mobile AN/MSC-46 DSCS terminals and the AN/GRC-188, which is a lightweight, transportable TACSATCOM terminal set. These incumbents perform a fairly difficult job (JDI equals 17.7) and 47 percent are located overseas. These respondents have fairly average job satisfaction indicators with the exception of reenlistment intentions, with 51 percent planning to reenlist.

X. COMMUNICATION RELAY CENTER PERSONNEL (GRP504). These 23 DAFSC 304X0 personnel are primarily working at Clark AB, Phillipines and seem to maintain different types of multiplexer equipment, but spend very little time maintaining radio receivers or transmitters. The two most common types of multiplexers these incumbents maintain are the AN/FCC-17, which is a fixed single side band frequency division multiplexer capable of carrying up to 60 channels per wire, and the AN/UCC-4, which can be used for voice, digital, telegraph, facsimile, or graphic information over microwave radio relay and tropospheric scatter systems. Typical tasks performed by these incumbents include:

adjust frequency shift converter components
perform PMIs on teletype multiplexer associated interface equipment
isolate malfunctions in main distribution frames and associated wiring
isolate malfunctions in patch panels
adjust direct current (DC) power supply components

These incumbents are fairly junior, with 91 percent holding the 3- or 5-skill level and 73 percent in their first enlistment. These respondents appear to be fairly satisfied with their job, with 82 percent finding their job interesting and 57 percent planning to reenlist.

XI. JUNIOR WIDEBAND COMMUNICATIONS REPAIRMEN (GRP239). These 27 incumbents primarily hold DAFSC 304X0 (74 percent) and perform a job fairly similar to Radio Relay Equipment Personnel described earlier. The primary radio system maintained by both groups is the AN/TRC-97A, and many of the tasks performed by the personnel in both major job groups are the same. The biggest differentiating factor between these two groups is the level of experience, with Radio Relay Equipment Personnel averaging almost four years more TAFMS than this major job group. Consequently, the number of tasks performed also differs, with Junior Wideband Communications Repairmen performing approximately one-fifth the tasks as Radio Relay Equipment Personnel. Typical tasks performed by the incumbents in this job group include:

perform turn-on or turn-off procedures
make entries on maintenance forms
operate heavy duty vehicles, such as 1-1/2 ton trucks or 10 ton tractor-trailer combinations
read meters to determine equipment operation or signal quality
adjust automatic gain control (AGC) components

These personnel have fairly low job satisfaction indicators, which may be due in part to the limited job they perform. Only 67 percent of these respondents find their job interesting and only 29 percent plan to reenlist.

XII. JUNIOR GROUND RADIO MAINTENANCE PERSONNEL (GRP257). These incumbents perform a job similiar to Ground Radio Maintenance Personnel described earlier, but only have half as much time in the service. Perhaps due to this lesser experience, they only perform one-fourth of the tasks of the above mentioned job group. They maintain the same types of radio equipment as the referred to major job group; however, the number of different types of equipment maintained is much lower. Interestingly, these incumbents are primarily located at Minuteman or Titan missile bases. They commonly perform such tasks as:

perform corrosion control
adjust squelch circuit components
perform PMIs on AM UHF transmitters or exciters
align AM receivers
clean maintenance work areas

Somewhat expectedly, these incumbents are also among the most dissatisfied of all major job groups; the limited job they perform is probably the main contributing factor to this dissatisfaction. Overall, only 54 percent perceive their training is being utilized at least fairly well and only 37 percent plan to reenlist.

XIII. JUNIOR RADIO RELAY EQUIPMENT PERSONNEL (GRP113). A majority of the 123 personnel hold either DAFSC 30430 or 30450, and seem to be assigned to tactical communications units or Combat Communications Groups worldwide. By working in these types of units, these personnel are responsible for maintaining mobile wideband communication radios rather than those associated with fixed units. These personnel also perform a more limited job than Radio Relay Equipment Personnel identified earlier, performing only one-third of the tasks (42 versus 124) and being two years more junior. Typical tasks performed by these respondents include:

perform corrosion control
adjust squelch circuit components
remove or replace electronic subassemblies using methods other than soldering
estabish orderwire contact with distant terminals

A review of job satisfaction data reveals these incumbents are fairly dissatisfied, with only 37 percent planning to reenlist and 56 percent finding their job interesting. These low job satisfaction indicators are probably due to the relatively limited job they perform and the large number of TDYs performed each year.

XIV. 2045th SATELLITE COMMUNICATIONS GROUP PERSONNEL (GRP328). These 18 DAFSC 304X6 incumbents are primarily earth terminal operators at Brandywine AFS MD. These personnel operate the AN/GRC-189 TACSATCOM terminal, which is used with synchronous orbit communications satellites. They perform very few maintenance tasks, other than those which involve general maintenance functions, such as cleaning work areas. Rather, these incumbents perform primarily operator tasks, such as:

establish communications links through spacecraft
schedule satellite users
review mission data for premission setups
perform tracking functions
perform acquisition functions

These incumbents are fairly junior, with 56 percent holding the 3-skill level and 89 percent still in their first enlistment. An examination of job satisfaction data for these incumbents reveals these personnel have among the lowest satisfaction indicators of all major job groups. Only 28 percent of these incumbents feel their training is being utilized at least fairly well, and only 11 percent plan to reenlist.

XV. COMMUNICATIONS-ELECTRONICS PERSONNEL (GRP434). These 11 DAFSC 304X4 personnel are differentiated from most other major job groups by the fact that they are performing a maintenance oriented job but maintain very few types of radios or radio equipment. Instead these incumbents maintain recorders, reproducers, or public address system components, many of which are used in conjunction with various displays at different air force base locations, such as Wright-Patterson AFB OH. Typical tasks performed by these incumbents include:

isolate malfunctions in recorders or reproducers
install or remove mounting hardware
adjust audio amplifier components
align speaker systems
run test tapes

All of these personnel hold the 5- or 7-skill level, and only 18 percent are in their first enlistment. Job satisfaction data for these incumbents appears to be about average, with 73 percent perceiving their talents are utilized at least fairly well and 45 percent planning to reenlist.

XVI. QUALITY CONTROL PERSONNEL (GRP117). This is the first major job group with notable percentages of personnel from all three specialties represented. As the title indicates, the personnel in this cluster are responsible for performing the quality control functions at their assigned locations. Consequently, these incumbents spend very little job time performing radio maintenance or operations, but instead evaluate the various aspects of radio maintenance and operations. The tasks commonly performed by these incumbents are primarily evaluative in nature and include:

evaluate compliance with performance standards
evaluate capability of equipment
evaluate inspection reports or procedures
schedule inspections
prepare deficiency reports

Somewhat expectedly, these incumbents are fairly senior, averaging 170 months TAFMS; 73 percent hold DAFSC 30470, 30474, or 30476. A review of job satisfaction data for these incumbents reveals 72 percent perceive their job as interesting and 55 percent plan to reenlist.

XVII. FIRSTLINE MAINTENANCE SUPERVISORS (GRP393). This cluster of 143 incumbents is made up of personnel from all three specialties. These personnel appear to be the immediate supervisors at a variety of radio maintenance facilities, and seem to divide their time between supervisory and maintenance functions. Most of these respondents are either senior 5-skill level or 7-skill level personnel who do not have enough seniority to perform only supervisory functions, or who, due to manning problems at the site, still must perform maintenance duties to insure optimum mission capabilities. Many of the tasks these incumbents perform are training related, such as:

conduct OJT
maintain training records, charts or graphs
conduct proficiency training
establish performance standards for subordinates
adjust automatic gain control (AGC) components

These personnel supervise an average of four people, and perform a fairly difficult job (JDI equals 18.9). These personnel appear to be fairly happy with their job, with 81 percent perceiving their training is utilized at least fairly well and 61 percent planning to reenlist.

XVIII. NCOICs, JOB CONTROL. While a majority (73 percent) of the 41 respondents in this major job group hold DAFSC 304X4, a substantial percentage of personnel also hold DAFSC 304X0. These senior NCOs do not maintain, operate, or supervise the personnel who perform these functions on various types of radio equipment. Instead, they are the supervisors of job control shops, whose purpose is to coordinate and schedule the various types of radio maintenance activities necessary to insure minimum mission degredation. These incumbents concentrate on either performing supervisory functions, compiling maintenance data, or monitoring maintenance activities, with tasks such as:

maintain status boards or charts
compile maintenance data
coordinate work activities with other units or agencies
coordinate cannibalization of equipment parts with appropriate agencies
prepare APRs

being performed by fairly high percentages of these respondents. These respondents seem extremely dissatisfied with their job, with only 34 percent perceiving their training is being utilized at least fairly well and only 38 percent planning to reenlist.

XIX. RADIO MAINTENANCE SUPERVISORS (GRP650). Although most of the 160 respondents in this cluster hold DAFSC 304X4, a notable percentage of DAFSC 304X6 and 304X0 personnel can also be found in this group. These incumbents are the middle level supervisors and managers at various ground radio, radio relay, and satellite communications sites located worldwide. Since these incumbents are middle level supervisors, they spend most of their job time performing supervisory functions and very little time on radio maintenance or operations. Typical tasks performed by these senior NCOs include:

interpret policies, procedures, or directives for subordinates
prepare APRs
determine requirements for space, personnel, equipment or supplies
schedule leaves or passes
plan work assignments

As stated earlier, the personnel performing this job are fairly senior, averaging 208 months TAFMS and having an average paygrade of E-6 or E-7. These respondents have somewhat above average job satisfaction indicators, with 80 percent finding their job interesting and 86 percent perceiving their talents are utilized at least fairly well.

XX. RESIDENT TRAINING SUPERVISORS (GRP711). The ten personnel in this independent job type are among the most senior of all major job groups, averaging 219 months TAFMS and having an average paygrade of E-7. These incumbents are the course supervisors of many of the various AFSC 304X0, 304X4, and 304X6 courses taught at Keesler AFB MS, and in many cases are also conducting resident course classroom training. Typical tasks performed by these incumbents include:

evaluate training methods or techniques
assign resident course instructors
conduct resident course classroom training
evaluate progress of students
schedule leaves or passes

As expected, very few of these incumbents report maintaining any type of radio equipment, but instead supervise the personnel who instruct resident technical school students on the techniques and principles used to maintain various types of radio equipment. Job satisfaction data reveals these incumbents are fairly satisfied with their job, with 80 percent finding their job interesting and 40 percent planning to reenlist.

XXI. TOOL CRIB SUPERVISORS (GRP442). Seventy-five percent of the 12 personnel in this independent job type are assigned overseas. These incumbents do not maintain radio equipment, but instead supervise the tool and supply functions at various radio maintenance facilities. Typical tasks performed by these incumbents include:

prepare requisitions for parts, tools, or supplies
direct supply functions or tool crib operations
maintain tool cribs
research supply catalogs
maintain historical records

Forty-one percent of these incumbents hold DAFSC 304X0, 34 percent hold DAFSC 304X4, and 17 percent hold DAFSC 304X6. These respondents are fairly senior, averaging 187 months TAFMS and having an average paygrade of E-6. A review of job satisfaction data reveals that while a somewhat lower than average percentage of these incumbents find their job interesting (66 percent), a fairly high percentage of personnel plan to reenlist (75 percent).

XXII. SATELLITE COMMUNICATIONS CREW CHIEFS (GRP466). All of the 15 personnel in this independent job type hold DAFSC 304X6, with 73 percent holding the 7-skill level. These incumbents seem to be the firstline supervisors at various DSCS, AFSATCOM, and TACSATCOM locations, but the majority appear to be working at DSCS sites. Being firstline supervisors, these personnel are responsible not only for earth terminal maintenance and operations functions, but also for conducting OJT at their respective sites. Typical tasks performed by a majority of the personnel in this major job group include:

counsel trainees on training progress
direct operational crew activities
direct maintenance crew activities
determine work priorities
conduct upgrade training

Only 27 percent of these incumbents are located overseas and these personnel report supervising an average of seven people. Overall, job satisfaction for these personnel appears to be about average, with only 67 percent perceiving their talents are utilized at least fairly well, and 53 percent report planning to reenlist.

XXIII. BASE INSTALLATION SECURITY SYSTEMS (BISS) PERSONNEL (GRP232). These 75 DAFSC 304X0 personnel maintain the sensors, relay equipment, and alarm equipment used to protect mission-critical/high value resources such as nuclear/conventional weapons storage sites, strategic/tactical alert aircraft areas, special mission aircraft parking ramps, etc. These systems are somewhat diversified, with some BISS sensors utilizing closed circuit TVs, lasers, radars, or still others utilizing infrared sensors. Typical tasks performed by these incumbents include:

isolate malfunctions in perimeter security systems
adjust security system or sensor system components
isolate malfunctions in security system annunciators
isolate malfunctions in security system digital data receivers
isolate malfunctions in security system seismic sensor systems

Ninety-five percent of these personnel maintain the AN/GSS-29, which is used to provide indoor protective surveillance of various restricted areas. Most of these personnel are stationed in CONUS (73 percent), and most hold the 5-skill level (57 percent). Job satisfaction data reveals that 78 percent find their job interesting and 53 percent perceive their training is utilized at least fairly well.

XXIV. MOBILE ENGINEERING AND INSTALLATION PERSONNEL (GRP273). Almost 85 percent of the 14 incumbents in this independent job type hold DAFSC 304X0, with the remainder holding DAFSC 304X4. Being E & I personnel, these incumbents do not perform the routine maintenance functions, but instead concentrate on the installation and removal of various types of radio equipment. This major job group differs from other E & I major job groups in that these personnel concentrate on installing and removing mobile or transportable radio systems, rather than the generally larger fixed radio systems. Representative tasks performed by these respondents include:

clear mobility work areas
operate heavy duty vehicles, such as 1-1/2 ton trucks or 10 ton tractor-trailer combinations
install or remove mobile communications equipment
perform corrosion control
emplace or anchor equipment vans or shelters

These incumbents are fairly junior, averaging only 36 months and 93 percent are still in their first enlistment. A review of job satisfaction data reveals these incumbents are among the most dissatisfied of all major job groups, with only 43 percent finding their job interesting and 21 percent planning to reenlist. These low job satisfaction indicators may be partly due to the limited job these incumbents perform, with these personnel performing a fairly low average number of tasks (22), and also performing a fairly simple job.

XXV. FIXED ENGINEERING AND INSTALLATION PERSONNEL (GRP154). The 40 personnel in this independent job type are approximately equally divided between those holding DAFSC 304X0 and those holding DAFSC 304X4. These incumbents do not maintain radio equipment, but instead are responsible for the installation and removal of fixed radio systems. Typical tasks performed by these personnel include:

install or remove fixed communications equipment
install or remove mounting hardware
assemble systems or subsystems from component parts
install or remove communications or control towers
lace cable assemblies or internal wiring

Like the Mobile E & I Personnel described earlier, these incumbents are also fairly junior (averaging 36 months TAFMS, with 80 percent in their first enlistment). The job satisfaction data for these personnel also closely parallels the previous major job group, with only 27 percent perceiving their job utilizes their training at least fairly well, and only 39 percent planning to reenlist.

XXVI. RESIDENT TECHNICAL SCHOOL INSTRUCTORS (GRP243). This independent job type of 77 personnel consists of substantial percentages of personnel from all three specialties. These incumbents are primarily stationed at Keesler AFB MS, and are responsible for conducting the various AFSC 304X0, 304X4, and 304X6 resident courses located there. Almost all of the tasks these incumbents perform are training related, and include:

score tests
conduct resident course classroom training
counsel trainees on training progress
conduct remedial training
procure training aids, space, or equipment

These incumbents are fairly senior, averaging 120 months TAFMS. Twenty-two percent of these personnel are in their first enlistment. In addition, examination of job satisfaction data reveals these incumbents are fairly satisfied, with 76 percent finding their job interesting and 60 percent planning to reenlist.

XXVII. INSTRUCTORS AND MAINTENANCE PERSONNEL (GRP227). This independent job type of 19 personnel is primarily made up of AFSC 304X6 instructors, but notable percentages of DAFSC 304X0 and 304X4 personnel are also in this major job group. These incumbents perform a job very similar to Resident Technical School Instructors described earlier, in that both major job groups are responsible for conducting resident course classroom training. However, these incumbents differ from the previous major job group in that they perform approximately three times more tasks, most of which are maintenance oriented. Representative tasks performed by these respondents include:

conduct remedial training
evaluate training methods or techniques
read meters to determine equipment operation or signal quality
conduct resident course classroom training
configure patch panels for analog operations

These incumbents are fairly senior, averaging 129 months TAFMS. Only 21 percent are in their first enlistment. Overall, this is one of the most satisfied of all major job groups, with 95 percent of these personnel perceiving their job utilizes their talents at least fairly well and 89 percent perceiving their training is being utilized at least fairly well.

XXVIII. JOB CONTROLLERS (GRP491). This independent job type of 58 personnel performs the lowest average number of tasks of all major job groups (12), most of which involve administrative functions. These incumbents perform the job control functions at various radio sites throughout the world. This job primarily involves monitoring the status of radio equipment and coordinating with the proper maintenance personnel to fix any equipment problems that may occur. Typical tasks performed by these respondents include:

maintain status boards and charts
compile maintenance data
prepare status reports
determine work priorities
coordinate work activities with other units or agencies

Fifty percent of these personnel hold DAFSC 304X4, and 37 percent hold DAFSC 304X0. A review of job satisfaction data reveals these incumbents are fairly dissatisfied with their job, with only 21 percent perceiving their training is utilized at least fairly well, and only 48 percent perceiving their talents are utilized at least fairly well.

XXIX. PLANS AND SCHEDULING PERSONNEL (GRP481). This independent job type of 14 persons performs a job somewhat similar to Job Controllers described earlier, but seem to be more involved with scheduling the usage of and periodic inspections of radio equipment, rather than with the monitoring of radio equipment performance and the consequential scheduling of maintenance activities. Typical tasks performed by these incumbents include:

schedule inspections
prepare maintenance activity schedules
prepare maintenance schedules
schedule use of equipment
establish organizational policies, office instructions (OI), or standard operating procedures (SOP)

Sixty-four percent of these incumbents hold DAFSC 304X4, and 43 percent are stationed overseas. These incumbents are fairly senior, averaging 134 months TAFMS; none are in their first enlistment. These personnel have average job satisfaction indicators, with 72 percent finding their job interesting and 43 percent planning to reenlist.

XXX. SUPPLY PERSONNEL (GRP281). The ten personnel in this independent job type are responsible for maintaining the availability of spare parts and for the scheduling of various types of equipment for Precision Measurement Equipment Laboratory (PMEL) inspections. These incumbents do not report maintaining radio equipment, but instead spend almost half of their job time performing supply functions. Typical tasks performed by a majority of these incumbents include:

maintain benchstocks
coordinate local purchases with maintenance offices or base supply
coordinate equipment calibration with Precision Measurement Equipment Laboratories (PMEL)
maintain equipment accountability records
direct supply functions or tool crib operations

Sixty percent of these incumbents hold DAFSC 30454, and 30 percent hold DAFSC 304X0. These incumbents have mixed job satisfaction indicators, with only 40 percent finding their job interesting, but 90 percent perceiving that their talents are being utilized at least fairly well or better.

XXXI. LIMITED EXPERIENCE QUALITY CONTROL PERSONNEL (GRP464). These personnel perform a quality control job, but only perform half as many tasks (15 versus 38) as Quality Control Personnel described earlier. This lower average number of tasks performed is not due to these incumbent's radio maintenance experience, but instead due to the fact that they have just assumed a quality control type job. The tasks most commonly performed by these senior NCOs are all quality control related, such as:

maintain technical order (TO) files
prepare activity reports
schedule inspections
prepare evaluation reports
evaluate compliance with performance standards

Seventy percent of these personnel hold DAFSC 304X4, with the remainder holding DAFSC 304X0. A majority of the incumbents are stationed overseas (60 percent); these personnel have an average paygrade of E-6. While only 50 percent of these respondents find their job interesting, 80 percent plan to reenlist.

Implications

An examination of the major jobs performed by DAFSC 304X0, 304X4, and 304X6 personnel reveal some interesting findings. First, a majority of the maintenance oriented jobs performed are performed by personnel from only one specialty. In other words, the technical radio maintenance jobs performed are fairly unique to each individual specialty, and very few personnel from one specialty (such as AFS 304X0) can be found maintaining another specialty's (such as AFS 304X4) radio equipment.

This finding does not hold true for a majority of the nontechnical jobs performed, and in many cases notable percentages of personnel from more than one specialty are performing the same types of jobs, most of which involve some aspect of supervision, training, quality control, or administration. Most of the incumbents performing these jobs hold the 7-skill level, and the jobs performed at this more senior skill level are much more similar across specialties than at the lower skill levels. The fact that the jobs performed in all three specialties become more similar as the skill level increases tends to validate the current classification structure of merging the three specialties with a common 9-skill level.

Some of the more interesting findings in this section involve the low job satisfaction indicators for several major job groups, with jobs oriented primarily to engineering and installation, job control, and supply functions consistently reflecting below average job satisfaction indicators. These low indicators are probably due to a wide variety of factors, but some consistent findings can be noted across all of these relatively dissatisfied major job groups. First, it seems that personnel with low job satisfaction indicators perform a relatively low average number of tasks, or in other words, perform a fairly limited job when compared to other major job groups. Second, these jobs are not maintenance oriented; a very low percentage of these relatively dissatisfied personnel report maintaining any type of radio equipment. Third, E & I personnel spend an inordinate amount of time TDY, and when they are not TDY, they do not have much of a job to perform.

In conclusion, the limited, nonmaintenance oriented job performed by some of the personnel in the three specialties seems to play a key role in their low job satisfaction data. An unfortunate consequence of this fact is that for the 304X0 specialty, several slots were created in CONUS (job control) in order to help alleviate an unfavorable rotational index (URI) and in turn increase retention rates among 304X0 personnel. Unfortunately, a review of job satisfaction data reveals personnel performing a job control type of job are more dissatisfied than personnel performing radio maintenance. Based on this finding, perhaps the policy of placing 304X0 personnel in additional CONUS job control slots needs to be reexamined.

TABLE 4

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR JOB GROUPS

DUTIES	GROUND RADIO MAINT PERS (GRP336, N=607)	ELEC SEC PERS (GRP712, N=61)	PUBLIC ADD EQUIP REP (GRP359, N=15)	E&I PERS (GRP264, N=15)	AERO AND GIANT TALK PERS (GRP186, N=136)	TITAN RADIO REP (GRP330, N=11)	RADIO RELAY EQUIP PERS (GRP267, N=291)	SR RADIO REP (GRP663, N=38)
ORGANIZING AND PLANNING	2	2	2	*	2	4	2	2
DIRECTING AND IMPLEMENTING	3	3	2	2	3	3	2	2
INSPECTING AND EVALUATING	1	1	*	*	2	*	1	2
TRAINING	3	3	1	1	3	3	3	2
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	3	2	1	2	3	3	2	1
PERFORMING SUPPLY FUNCTIONS	3	3	4	*	3	4	2	2
PERFORMING EQUIPMENT OPERATION FUNCTIONS	6	6	5	11	9	7	8	4
PERFORMING SATELLITE OPERATION FUNCTIONS	*	*	*	*	*	*	*	*
PERFORMING GENERAL MAINTENANCE FUNCTIONS	12	18	15	26	13	15	10	9
MAINTAINING ANTENNA SYSTEMS	2	1	*	3	2	1	2	3
MAINTAINING RECEIVERS TO INCLUDE RECEIVER PORTION OF TRANSCEIVERS	18	26	20	19	8	13	18	15
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	20	*	11	12	12	23	12	15
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	*	*	*	*	*	11	8
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	*	*	*	*	*	4	4
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	4	*	7	*	*	*	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	4	8	16	2	1	*	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	14	*	*	*
MAINTAINING MODEMS	*	*	*	*	*	*	*	1
MAINTAINING TRACKING SYSTEMS	*	*	*	*	*	1	*	*
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	1	*	*	*	3
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	12	19	8	6	15	15	13	20
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	2	*	*	7	*	*	2	3
PERFORMING SUPPORT FUNCTIONS	5	5	4	5	3	5	5	3

*DENOTES LESS THAN ONE PERCENT

TABLE 5

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR JOB GROUPS

DUTIES	SPACE COMM SYSTEMS PERS (GRP234, N=163)	COMM RELAY CENTER PERS (GRP504, N=23)	JR WIDEBAND COMM REP (GRP239, N=27)	JR GROUND RADIO MAINT PERS (GRP257, N=22)	JR RADIO RELAY EQUIP PERS (GRP113, N=123)	2045TH SATCOM GROUP PERS (GRP328, N=18)	COMM-ELEC PERS (GRP434, N=11)	QC PERS (GRP117, N=121)
ORGANIZING AND PLANNING	2	3	*	2	1	1	4	16
DIRECTING AND IMPLEMENTING	4	1	3	1	2	1	3	12
INSPECTING AND EVALUATING	2	*	*	*	*	*	2	31
TRAINING	4	3	1	*	1	3	3	7
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	2	3	4	4	4	2	4	18
PERFORMING SUPPLY FUNCTIONS	2	2	*	3	2	2	5	5
PERFORMING EQUIPMENT OPERATION FUNCTIONS	14	8	18	15	18	26	7	2
PERFORMING SATELLITE OPERATION FUNCTIONS	3	*	*	*	*	24	*	*
PERFORMING GENERAL MAINTENANCE FUNCTIONS	11	15	25	19	15	17	28	3
MAINTAINING ANTENNA SYSTEMS	4	*	*	*	2	1	*	*
MAINTAINING RECEIVERS TO INCLUDE RECEIVER PORTION OF TRANSCEIVERS	7	5	8	22	14	3	3	*
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	11	2	3	15	7	3	2	*
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	5	10	5	*	9	*	2	*
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	1	24	1	*	2	*	*	*
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	1	*	*	2	*	2	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*	1	*	*	15	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*	*	*	*
MAINTAINING MODEMS	3	2	*	*	*	2	*	*
MAINTAINING TRACKING SYSTEMS	7	*	*	*	*	1	*	*
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*	*	*	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	11	18	4	4	8	2	12	*
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	1	1	2	*	2	*	1	1
PERFORMING SUPPORT FUNCTIONS	4	2	22	10	11	8	6	2

*DENOTES LESS THAN ONE PERCENT

TABLE 6

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR JOB GROUPS

DUTIES	FIRST LINE MAINT SUPVS (GRP395, N=148)	NCOICs, JOB CONTROL (GRP564, N=41)	RADIO MAINT SUPVS (GRP650, N=160)	RES TRAINING SUPVS (GRP711, N=10)	TOOL CRIB SUPVS (GRP442, N=12)	SATCOM CREW CHIEFS (GRP466, N=15)	BISS PERS (GRP232, N=75)	MOBILE E&I PERS (GRP273, N=14)
ORGANIZING AND PLANNING	9	23	21	17	13	13	4	*
DIRECTING AND IMPLEMENTING	10	23	20	21	18	16	4	2
INSPECTING AND EVALUATING	7	12	19	15	10	8	2	*
TRAINING	9	17	13	37	7	18	4	*
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	6	19	9	4	12	4	5	*
PERFORMING SUPPLY FUNCTIONS	6	3	7	3	18	3	5	1
PERFORMING EQUIPMENT OPERATION FUNCTIONS	5	*	1	*	3	10	3	5
PERFORMING SATELLITE OPERATION FUNCTIONS	*	*	*	*	*	4	*	*
PERFORMING GENERAL MAINTENANCE FUNCTIONS	9	*	3	*	8	6	15	11
MAINTAINING ANTENNA SYSTEMS	1	*	*	*	*	*	*	*
MAINTAINING RECEIVERS TO INCLUDE RECEIVER PORTION OF TRANSCEIVERS	9	*	1	*	*	1	*	3
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	7	*	1	*	*	2	*	2
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	3	*	*	*	*	*	*	4
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	*	*	*	*	*	*	*
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	*	*	*	*	*	*	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	2	*	*	*	1	*	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*	*	*	*
MAINTAINING MODEMS	*	*	*	*	*	2	*	*
MAINTAINING TRACKING SYSTEMS	*	*	*	*	*	4	*	*
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*	*	42	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	8	*	*	*	1	3	5	2
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	1	*	*	*	3	*	*	10
PERFORMING SUPPORT FUNCTIONS	4	2	2	*	6	2	8	55

*DENOTES LESS THAN ONE PERCENT

TABLE 7

RELATIVE PERCENT TIME SPENT ON DUTIES BY MAJOR JOB GROUPS

DUTIES	RES FIXED E&I PERS (GRP154, N=40)	INST TECH SCHOOL INST (GRP243, N=77)	INST AND MAINT PERS (GRP227, N=19)	JOB CONTROL (GRP491, N=56)	PLANS AND SCHED PERS (GRP481, N=14)	SUPPLY PERS (GRP281, N=10)	LIMITED EXP QC PERS (GRP464, N=10)
ORGANIZING AND PLANNING	*	3	5	28	33	8	10
DIRECTING AND IMPLEMENTING	2	9	9	16	18	16	8
INSPECTING AND EVALUATING	*	3	6	5	6	2	17
TRAINING	*	69	35	5	6	4	7
PREPARING AND MAINTAINING FORMS, RECORDS, AND REPORTS	*	2	3	38	30	9	49
PERFORMING SUPPLY FUNCTIONS	*	1	3	3	4	48	*
PERFORMING EQUIPMENT OPERATION FUNCTIONS	*	*	11	*	*	3	*
PERFORMING SATELLITE OPERATION FUNCTIONS	*	*	*	*	*	*	*
PERFORMING GENERAL MAINTENANCE FUNCTIONS	38	2	7	*	*	4	*
MAINTAINING ANTENNA SYSTEMS	*	*	*	*	*	*	*
MAINTAINING RECEIVERS TO INCLUDE RECEIVER PORTION OF TRANSCEIVERS	2	1	6	*	*	2	*
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	*	*	3	*	*	*	*
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	2	4	*	*	*	*
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	*	1	3	*	*	*	*
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	*	*	*	*	*	*	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	*	*	*	*	*	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	*	*	*	*	*	*
MAINTAINING MODEMS	*	*	*	*	*	*	*
MAINTAINING TRACKING SYSTEMS	*	*	*	*	*	*	*
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	*	*	*	*	*	*	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	*	*	3	*	*	*	*
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	35	*	*	*	*	*	*
PERFORMING SUPPORT FUNCTIONS	14	*	1	4	2	2	7

*DENOTES LESS THAN ONE PERCENT

TABLE 8

BACKGROUND INFORMATION FOR MAJOR JOB GROUPS

	GROUND RADIO MAINT PERS	ELEC SEC PERS	PUBLIC ADDRESS EQUIP REP	E&I PERS	AERO AND GIANT TALK PERS	TITAN RADIO REP	RADIO RELAY EQUIP PERS	SR RADIO REP
AVERAGE NUMBER OF TASKS PERFORMED:	125	99	65	64	111	72	124	275
JOB DIFFICULTY INDEX:	16.4	14.3	11.2	10.6	15.9	12.0	6.7	25.0
AVERAGE PAYGRADE:	E-4	E-5	E-4	E-4	E-4	E-4/-5	E-4	E-4/-5
PERCENT LOCATED OVERSEAS:	31%	95%	33%	13%	55%	-	64%	32%
DAFSC:								
30430	1%	-	7%	-	-	-	18%	13%
30450	-	-	-	7%	2%	-	63%	31%
30470	-	-	-	-	1%	-	16%	29%
30434	15%	-	40%	40%	7%	27%	-	3%
30454	68%	72%	53%	40%	66%	73%	1%	18%
30474	16%	26%	-	13%	24%	-	-	-
30436	-	-	-	-	-	-	-	3%
30456	-	-	-	-	-	-	-	3%
30476	-	-	-	-	-	-	-	-
OTHER	-	2%	-	-	-	-	2%	-
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	1	1	-	-	1	1	1	1
AVERAGE MONTHS TAFMS:	67	91	40	48	79	37	66	90
PERCENT IN FIRST ENLISTMENT:	52%	16%	80%	67%	38%	73%	58%	50%
PERCENT MAINTAINING THE FOLLOWING EQUIPMENT:								
AN/FSC-78	-	-	-	-	-	-	1%	-
AN/MSC-46	-	-	-	-	-	-	-	5%
AN/TSC-88	-	-	-	-	-	-	-	-
AN/GRC-188	-	-	-	-	-	-	-	-
AN/GRC-189	-	-	-	-	-	-	-	-
208U-3/10	6%	-	6%	4%	42%	-	-	5%
310V-1	2%	-	-	7%	40%	-	-	3%
R-390A	27%	77%	67%	-	30%	-	-	5%
AN/TRC-97A	-	-	-	-	-	-	47%	42%
AN/GRC-171	68%	2%	87%	27%	4%	-	2%	8%
AN/GRC-175	50%	-	80%	13%	3%	-	1%	11%
AN/GRR-24	65%	21%	80%	13%	8%	-	1%	8%
AN/GSS-29	1%	-	-	-	-	-	4%	18%
AN/FCC-17 FAMILY	-	-	-	-	2%	-	8%	21%
AN/FCC-98 (DIGITAL)	-	-	-	-	-	-	1%	13%
AN/UCC-4	-	-	-	7%	2%	-	3%	42%
AN/MRC-107	14%	-	-	13%	-	-	-	3%
AN/GRC-117	-	-	-	-	-	91%	-	-
DL-19W	14%	-	40%	-	2%	-	-	5%

TABLE 9

BACKGROUND INFORMATION FOR MAJOR JOB GROUPS

	SPACE COMM SYSTEMS PERS	COMM RELAY CENTER PERS	JR WIDEBAND COMM REP	JR GROUND RADIO MAINT PERS	JR RADIO RELAY EQUIP PERS	2045TH SATCOM GROUP PERS	COMM-ELEC PERS	QC PERS
AVERAGE NUMBER OF TASKS PERFORMED:	141	88	27	32	56	42	64	38
JOB DIFFICULTY INDEX:	17.7	13.3	3.8	6.3	9.3	8.0	9.8	10.8
AVERAGE PAYGRADE:	E-4	E-3/-4	E-3	E-3	E-3/-4	E-3/-4	E-5	E-6
PERCENT LOCATED OVERSEAS:	47%	70%	19%	23%	59%		27%	38%
DAFSC:								
30430	-	39%	63%	-	34%	-	-	-
30450	-	52%	11%	-	49%	-	-	7%
30470	-	9%	-	-	2%	-	-	20%
30434	-	-	11%	32%	1%	-	-	-
30454	-	-	4%	68%	2%	-	46%	16%
30474	-	-	4%	-	-	-	54%	49%
0436	24%	-	3%	-	4%	56%	-	-
30456	61%	-	4%	-	5%	44%	-	2%
30476	15%	-	-	-	-	-	-	4%
OTHER	-	-	-	-	3%	-	-	2%
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	1	-	-	-	-	-	-	-
AVERAGE MONTHS TAFMS:	78	51	24	32	41	30	125	170
PERCENT IN FIRST ENLISTMENT:	46%	73%	96%	81%	75%	89%	18%	5%
PERCENT MAINTAINING THE FOLLOWING EQUIPMENT:								
AN/FSC-78	55%	-	-	-	2%	-	-	3%
AN/MSC-46	26%	-	-	-	1%	-	-	1%
AN/TSC-88	7%	-	-	-	5%	-	-	-
AN/GRC-188	11%	-	-	-	-	-	-	-
AN/GRC-189	-	-	-	-	-	100%	-	-
208U-3/10	-	-	-	9%	-	-	-	-
310V-1	-	-	-	5%	-	-	-	-
R-390A	-	-	4%	18%	-	-	-	4%
AN/TRC-97A	-	-	52%	-	29%	-	-	3%
AN/GRC-171	-	-	4%	41%	-	-	-	7%
AN/GRC-175	-	-	-	14%	-	-	-	5%
AN/GRR-24	-	-	-	41%	4%	-	-	6%
AN/GSS-29	-	-	4%	-	2%	-	-	-
AN/FCC-17 FAMILY	1%	52%	-	-	3%	-	-	-
AN/FCC-98 (DIGITAL)	53%	26%	7%	-	3%	6%	18%	-
AN/UCC-4	32%	35%	11%	-	21%	6%	-	-
AN/GRC-117	-	-	4%	5%	-	-	-	2%
DL-18W	-	-	9%	-	-	-	-	-

TABLE 10

BACKGROUND INFORMATION FOR MAJOR JOB GROUPS

	FIRST LINE MAINT SUPVS	NCOICs, JOB CONTROL	RADIO MAINT SUPVS	RES TRAINING SUPVS	TOOL CRIB SUPVS	SATCOM CREW CHIEFS	BISS PERS	MOBILE E&I PERS
AVERAGE NUMBER OF TASKS PERFORMED:	164	40	83	50	56	78	66	22
JOB DIFFICULTY INDEX:	18.9	10.3	14.0	12.2	9.3	13.6	11.5	1.0
AVERAGE PAYGRADE:	E-5/-6	E-6	E-6/-7	E-7	E-6	E-6	E-4	E-3
PERCENT LOCATED OVERSEAS:	58%	49%	48%	-	75%	27%	27%	36%
DAFSC:								
30430	-	-	-	-	-	-	24%	36%
30450	18%	5%	-	-	8%	-	57%	36%
30470	26%	20%	22%	20%	33%	-	16%	7%
30434	2%	-	-	-	-	-	1%	7%
30454	11%	15%	3%	10%	17%	-	-	14%
30474	38%	58%	61%	40%	17%	-	-	-
30436	-	-	2%	-	-	-	-	-
30456	3%	2%	2%	10%	17%	27%	-	-
30476	2%	-	6%	10%	-	73%	-	-
OTHER	-	-	4%	10%	8%	-	2%	-
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	4	3	6	10	3	7	1	-
AVERAGE MONTHS TAFMS:	149	181	208	219	187	179	55	36
PERCENT IN FIRST ENLISTMENT:	5%	5%	-	-	8%	-	62%	93%
PERCENT MAINTAINING THE FOLLOWING EQUIPMENT:								
AN/FSC-78	1%	-	5%	-	-	53%	-	-
AN/MSC-46	-	2%	2%	-	8%	13%	-	-
AN/TSC-88	1%	-	10%	-	-	13%	-	-
AN/GRC-188	1%	-	-	-	-	13%	-	-
AN/GRC-189	1%	-	1%	-	-	13%	-	-
208U-3/10	3%	-	7%	-	-	-	-	-
310V-1	1%	-	6%	-	-	-	-	-
R-390A	12%	-	18%	10%	17%	-	-	-
AN/TRC-97A	4%	-	4%	-	25%	-	1%	43%
AN/GRC-171	30%	-	26%	-	25%	-	1%	7%
AN/GRC-175	18%	-	16%	-	25%	-	1%	-
AN/GRR-24	30%	-	24%	-	25%	-	4%	-
AN/GSS-29	3%	-	4%	-	-	-	95%	7%
AN/FCC-17 FAMILY	7%	-	3%	-	-	-	2%	-
AN/FCC-98 (DIGITAL)	2%	-	6%	-	-	47%	-	-
AN/UCC-4	8%	-	5%	10%	8%	20%	-	14%
AN/MRC-107	3%	-	6%	-	-	-	-	7%
AN/GRC-117	1%	-	1%	-	-	-	-	-
DL-19W	7%	-	9%	-	8%	-	1%	-

TABLE 11

BACKGROUND INFORMATION FOR MAJOR JOB GROUPS

	FIXED E&I PERS	RES TECH SCHOOL INST	INST AND MAINT PERS	JOB CONTROL	PLANS AND SCHED	SUPPLY PERS	LIMITED EXP QC PERS
AVERAGE NUMBER OF TASKS PERFORMED:	17	18	63	12	21	22	15
JOB DIFFICULTY INDEX:	2.9	7.6	12.3	5.5	7.2	4.4	6.1
AVERAGE PAYGRADE:	E-3/-4	E-5	E-5	E-4	E-5	E-4/-5	E-6
PERCENT LOCATED OVERSEAS:	22%	3%	11%	33%	43%	20%	60%
DAFSC:							
30430	18%	3%	-	2%	7%	-	-
30450	32%	16%	26%	33%	7%	20%	20%
30470	3%	13%	5%	2%	14%	10%	10%
30434	7%	5%	-	-	-	-	-
30454	37%	23%	16%	43%	21%	60%	10%
30474	3%	23%	5%	7%	43%	-	60%
30436	-	-	-	-	-	-	-
30456	-	10%	16%	3%	7%	-	-
30476	-	6%	32%	5%	-	10%	-
OTHER	-	1%	-	5%	1%	-	-
AVERAGE NUMBER OF PERSONNEL SUPERVISED:	-	-	2	-	1	1	-
AVERAGE MONTHS TAFMS:	36	120	129	76	134	101	164
PERCENT IN FIRST ENLISTMENT:	80%	22%	21%	39%	-	30%	10%
PERCENT MAINTAINING THE FOLLOWING EQUIPMENT:							
AN/FSC-78	-	1%	11%	2%	-	10%	-
AN/MSC-46	-	3%	11%	-	-	-	-
AN/TSC-88	-	-	5%	2%	-	-	-
AN/GRC-188	-	-	-	-	-	-	-
AN/GRC-189	-	-	-	-	-	-	-
208U-3/10	3%	-	-	-	-	-	-
310V-1	-	-	-	2%	-	10%	-
R-390A	-	-	-	-	-	-	-
AN/TRC-97A	-	-	5%	-	-	10%	-
AN/GRC-171	3%	-	-	3%	-	30%	-
AN/GRC-175	3%	-	-	2%	-	-	-
AN/GRR-24	3%	-	-	3%	-	30%	-
AN/GSS-29	-	-	-	-	-	-	-
AN/FCC-17 FAMILY	-	-	11%	-	-	-	-
AN/FCC-98 (DIGITAL)	3%	1%	16%	-	-	-	-
AN/UCC-4	-	4%	21%	2%	-	20%	-
AN/MRC-107	-	-	5%	-	-	-	-
AN/GRC-117	-	-	-	2%	-	-	-
DL-19W	-	-	-	-	-	-	-

TABLE 12

JOB SATISFACTION AND RELATED DATA FOR MAJOR JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	GROUND RADIO MAINT PERS	ELEC SEC PERS	PUBLIC ADDRESS EQUIP REP	E&I PERS	AERO AND GIANT TALK PERS	TITAN RADIO REP	RADIO RELAY EQUIP PERS	SR RADIO REP
I FIND MY JOB:								
NO RESPONSE	-	-	-	-	-	-	1	-
DULL	9	10	-	-	11	-	14	11
SO-SO	16	26	20	7	15	18	15	11
INTERESTING	75	64	80	93	74	82	70	78
MY JOB UTILIZES MY TALENTS:								
NO RESPONSE	-	-	-	-	-	-	1	-
NOT AT ALL TO VERY LITTLE	17	20	27	27	15	-	19	26
FAIRLY WELL OR BETTER	83	80	73	73	85	100	80	74
MY JOB UTILIZES MY TRAINING:								
NO RESPONSE	-	-	-	-	-	-	1	-
NOT AT ALL TO VERY LITTLE	13	15	-	27	18	-	16	21
FAIRLY WELL OR BETTER	87	85	100	73	82	100	83	79
I PLAN TO REENLIST:								
NO RESPONSE	1	2	-	-	1	-	-	3
NO, PLANNING TO RETIRE	2	-	-	-	6	-	2	8
NO OR PROBABLY NO	49	53	53	60	40	36	53	50
YES OR PROBABLY YES	48	45	47	40	53	64	45	39

TABLE 13

JOB SATISFACTION AND RELATED DATA FOR MAJOR JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	SPACE COMM SYSTEMS PERS	COMM RELAY CENTER PERS	JR WIDEBAND COMM REP	JR GROUND RADIO MAINT PERS	JR RADIO RELAY EQUIP PERS	2045TH SATCOM GROUP PERS	COMM-ELEC PERS	QC PERS
I FIND MY JOB:								
NO RESPONSE	2	-	-	-	1	-	-	3
DULL	12	9	22	9	20	22	9	11
SO-SO	10	9	11	14	23	17	27	14
INTERESTING	76	82	67	77	56	61	64	72
MY JOB UTILIZES MY TALENTS:								
NO RESPONSE	-	-	-	-	-	-	-	2
NOT AT ALL TO VERY LITTLE	20	26	41	41	33	39	27	16
FAIRLY WELL OR BETTER	80	74	59	59	67	61	73	82
MY JOB UTILIZES MY TRAINING:								
NO RESPONSE	-	-	-	-	-	-	-	1
NOT AT ALL TO VERY LITTLE	20	13	30	46	28	72	46	29
FAIRLY WELL OR BETTER	80	87	70	54	72	28	54	70
I PLAN TO REENLIST:								
NO RESPONSE	-	-	4	-	1	6	-	-
NO, PLANNING TO RETIRE	3	-	4	-	2	-	9	23
NO OR PROBABLY NO	46	43	63	68	60	83	46	22
YES OR PROBABLY YES	51	57	29	32	37	11	45	55

TABLE 14

JOB SATISFACTION AND RELATED DATA FOR MAJOR JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	FIRST LINE MAINT SUPVs	NCOICs, JOB CONTROL	RADIO MAINT SUPVs	RES TRAINING SUPVs	TOOL CRIB SUPVs	SATCOM CREW CHIEFS	BISS PERS	MOBILE E&I PERS
I FIND MY JOB:								
NO RESPONSE	1	-	-	-	-	-	-	-
DULL	12	27	8	-	17	7	9	36
SO-SO	9	17	12	20	17	27	13	21
INTERESTING	78	56	80	80	66	66	78	43
MY JOB UTILIZES MY TALENTS:								
NO RESPONSE	1	-	-	-	-	-	-	-
NOT AT ALL TO VERY LITTLE	18	37	14	20	25	33	25	57
FAIRLY WELL OR BETTER	81	63	86	80	75	67	75	43
MY JOB UTILIZES MY TRAINING:								
NO RESPONSE	1	-	-	10	-	-	-	-
NOT AT ALL TO VERY LITTLE	18	66	22	20	33	20	47	57
FAIRLY WELL OR BETTER	81	34	78	70	67	80	53	43
I PLAN TO REENLIST:								
NO RESPONSE	1	-	1	10	-	-	-	-
NO, PLANNING TO RETIRE	16	27	36	30	25	40	1	7
NO OR PROBABLY NO	22	35	16	20	-	7	55	72
YES OR PROBABLY YES	61	38	47	40	75	53	44	21

TABLE 15

JOB SATISFACTION AND RELATED DATA FOR MAJOR JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	FIXED E&I PERS	RES TECH SCHOOL INST	INST AND MAINT PERS	JOB CONTROL	PLANS AND SCHED	SUPPLY PERS	LIMITED EXP QC PERS
I FIND MY JOB:							
NO RESPONSE	3	3	-	-	-	-	-
DULL	13	13	5	24	14	10	20
SO-SO	33	8	16	17	14	50	30
INTERESTING	51	76	79	59	72	40	50
MY JOB UTILIZES MY TALENTS:							
NO RESPONSE	-	1	-	-	-	-	-
NOT AT ALL TO VERY LITTLE	48	20	5	52	21	10	40
FAIRLY WELL OR BETTER	52	79	95	48	79	90	60
MY JOB UTILIZES MY TRAINING:							
NO RESPONSE	-	3	-	-	-	-	-
NOT AT ALL TO VERY LITTLE	73	21	11	79	57	40	40
FAIRLY WELL OR BETTER	27	76	89	21	43	60	60
I PLAN TO REENLIST:							
NO RESPONSE	-	1	-	-	-	-	-
NO, PLANNING TO RETIRE	3	10	11	3	7	10	-
NO OR PROBABLY NO	58	29	37	52	50	50	20
YES OR PROBABLY YES	39	60	52	45	43	40	80

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups is an important part of each occupational analysis. Normally, this type of analysis is used to identify differences between skill level groups in a given specialty. However, in this report, this analysis will examine the tasks and duties performed in common by the 5-skill level personnel in each specialty, as well as discussing the tasks and duties which best differentiate each career ladder. In addition, various types of background data (i.e. equipment maintained, job satisfaction, test equipment utilized) were analyzed for 5-skill level incumbents. Five-skill personnel were chosen for this analysis because this section is intended to highlight the technical similarities and differences of the 304X0, 304X4, and 304X6 specialties.)

Table 16 provides the relative percent time spent on duties for DAFSC 30450, 30454, and 30456 personnel. This table can help give a general overview of each career ladder by indicating which duty areas career ladder incumbents spend most of their job time performing. While DAFSC 30450 incumbents spend fairly large amounts of job time performing general maintenance functions or maintaining receivers, they also spend the highest percentages of job time maintaining voice frequency multiplexers and maintaining BISS type systems. DAFSC 30454 personnel also spend substantial amounts of job time performing general maintenance functions or maintaining receivers. However, when these incumbents are compared to DAFSC 30450 and 30456 personnel, DAFSC 30454 personnel spend higher percentages of job time maintaining transmitters, communications or control consoles, or audio or facsimile equipment. While DAFSC 30456 personnel spend about the same percentage of job time performing general maintenance functions as DAFSC 30450 and 30454 personnel, they also spend job time on some relatively distinct duties. Some of the duties in which DAFSC 30456 personnel spend a higher percentage of job time performing include performing equipment operation or satellite operation functions, maintaining modems, and maintaining tracking systems.

Table 17 lists all of the tasks performed by at least 30 percent of DAFSC 30450, 30454, and 30456 personnel. This table reveals what types of tasks are common between the specialties, and would have helped to provide support for a merger of the three specialties if a substantial number of tasks could have been identified as common across the specialties. However, Table 17 reveals only 31 of the 863 tasks in the job inventory are performed by at least 30 percent of DAFSC 30450, 30454, and 30456 personnel. Also, Table 17 reveals that the tasks are very general in nature, such as conducting OJT, performing turn-off or turn-on procedures, or performing corrosion control, and probably are performed by fairly substantial percentages of 5-skill level personnel in all of the 30XXX career ladders.

While Table 17 reveals the tasks performed in common across the three specialties, Table 18 lists some representative tasks which best differentiate the incumbents in the three career ladders. Table 18 reveals DAFSC 30450 personnel are more likely to perform FM or multiplexer type tasks, such as aligning FM receivers, adjusting FM modulator components, or aligning frequency division multiplexers. DAFSC 30454 personnel, however, are more

likely to maintain AM or recording type equipment, with a higher percentage of personnel performing such tasks as performing PMIs on AM receivers, adjusting AM detector components, or performing PMIs on recorders or reproducers. Finally, a higher percentage of DAFSC 30456 personnel performed tasks related to patch panels or satellite systems, such as configuring patch panels for spread spectrum operations, performing tracking functions, or performing acquisition functions.

In addition to examining the task and duty differences and similarities of the personnel in the three specialties, Table 19 provides various types of background data for analysis, such as equipment maintained, work areas, and average months TAFMS. Table 19 reveals that 55 percent of DAFSC 30450 personnel are stationed overseas, 58 percent are working at a microwave relay site, 26 percent maintain the AN/TRC-97A, and 18 percent maintain the AN/UCC-4 multiplexer. On the other hand, only 37 percent of DAFSC 30454 personnel are stationed overseas, 45 percent are working at a fixed receiver or transmitter site, and 40 percent maintain the AN/GRC-171 or AN/GRR-24. Finally, Table 19 reveals DAFSC 30456 are the most senior (averaging 73 months TAFMS), perform the highest average number of tasks (109), and are the only incumbents who report maintaining the AN/FSC-78, AN/MSC-46, or AN/TSC-94.

Table 20 lists the percentage of 5-skill level personnel who report utilizing different types of test equipment, and can help reveal additional similarities or differences between specialties. Table 20 reveals that 12 of the 33 types of test equipment listed are utilized by at least 30 percent of the incumbents in all three specialties, some of which include multimeters, oscilloscopes, and RF signal generators. In addition to the common types of test equipment, several types of test equipment were utilized by substantially higher percentages of personnel from only one specialty. For example, higher percentages of DAFSC 30450 personnel utilize noise measuring sets, while higher percentages of DAFSC 30454 personnel utilize tube testers, semiconductor testers, capacitor test sets, insulation test sets, or flutter meters. Some types of test equipment can also be found to be utilized by higher percentages of DAFSC 30456 personnel, some of which include built-in test equipment, pressure gauges, bit error rate sets, logic probes, and vacuum pumps.

Finally, Table 21 reveals job satisfaction data for DAFSC 30450, 30454, 30456 personnel. Table 21 reveals there are very few differences in job satisfaction between the three specialties, with about the same percentages of 5-skill level personnel finding their job interesting, perceiving their job utilizes their talents and training, and planning to reenlist.

Summary

Although there are similarities in the time spent on various duties, several of the types of tasks performed, and several of the types of test equipment utilized, the differences in these areas as well as the differences in the types of equipment maintained appear to be great enough to preclude any type of merger of the three specialties. Most of the common types of duties (i.e., performing general maintenance functions), common tasks (performing

safety inspections), or common test equipment (oscilloscopes or multimeters) are so common that personnel in any 30XXX career ladder (except for possibly the 307X0) would report performing the same tasks and duties or report utilizing the same types of test equipment. While the types of tasks performed commonly across the specialties are few, there appears to be a rather large number of tasks performed and types of equipment maintained that are peculiar to only one specialty.

TABLE 16

RELATIVE PERCENT TIME SPENT ON DUTIES BY 3045X SKILL LEVEL GROUPS

DUTIES	30450 PERSONNEL (N=501)	30454 PERSONNEL (N=917)	30456 PERSONNEL (N=187)
ORGANIZING AND PLANNING	5	5	4
DIRECTING AND IMPLEMENTING	4	4	6
INSPECTING AND EVALUATING	2	2	3
TRAINING	6	5	9
PREPARING AND MAINTAINING FORMS, RECORDS AND REPORTS	6	5	4
PERFORMING SUPPLY FUNCTIONS	3	4	3
PERFORMING EQUIPMENT OPERATION FUNCTIONS	9	6	14
PERFORMING SATELLITE OPERATION FUNCTIONS	*	*	4
PERFORMING GENERAL MAINTENANCE FUNCTIONS	11	12	10
MAINTAINING ANTENNA SYSTEMS	1	1	3
MAINTAINING RECEIVERS TO INCLUDE RECEIVE PORTION OF TRANSCEIVERS	10	14	5
MAINTAINING TRANSMITTERS TO INCLUDE TRANSMIT PORTION OF TRANSCEIVERS	7	13	4
MAINTAINING VOICE FREQUENCY MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	7	*	2
MAINTAINING TELETYPE MULTIPLEXERS AND ASSOCIATED INTERFACE EQUIPMENT	3	*	1
MAINTAINING COMMUNICATION OR CONTROL CONSOLES	*	3	*
MAINTAINING AUDIO OR FACSIMILE EQUIPMENT	*	3	*
MAINTAINING SCOPE CONTROL OR UNIVERSAL RADIO GROUP EQUIPMENT	*	2	*
MAINTAINING MODEMS	*	*	3
MAINTAINING TRACKING SYSTEMS	*	*	4
MAINTAINING BASE AND INSTALLATION SECURITY SYSTEMS	4	*	*
MAINTAINING COMMON OR MISCELLANEOUS SUBASSEMBLIES	9	10	7
PERFORMING SITE INSTALLATION OR MOVING FUNCTIONS	3	3	1
PERFORMING SUPPORT FUNCTIONS	7	6	4

*DENOTES LESS THAN ONE PERCENT

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY AT LEAST 30 PERCENT OF DAFSC 30450, 30454, AND 30456 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 30450 (N=501)	DAFSC 30454 (N=917)	DAFSC 30456 (N=187)
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	33	35	41
A5	DETERMINE WORK PRIORITIES	39	39	38
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	39	44	48
D89	CONDUCT OJT	43	46	51
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	33	38	42
E117	MAINTAIN STATUS BOARDS OR CHARTS	30	32	36
E120	MAKE ENTRIES ON MAINTENANCE FORMS	57	54	52
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	40	54	49
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	30	42	39
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	64	59	69
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	46	59	67
G164	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	71	71	77
G165	PERFORM TURN-ON OR TURN-OFF PROCEDURES	64	68	78
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	49	64	59
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	36	40	50
I195	INSPECT SAFETY OF EQUIPMENT	46	53	50
I196	INSTALL OR REMOVE MOUNTING HARDWARE	30	43	43
I204	ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	30	40	45
I206	PERFORM CORROSION CONTROL	58	67	62
I207	PERFORM SAFETY INSPECTIONS	41	44	42
I208	PERFORM SYSTEM MODIFICATIONS	32	39	50
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	57	66	48
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	53	64	61
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	33	53	53
I224	SPLICE WIRING OR CABLES	37	44	33
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	49	66	45
L348	ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	36	44	43
U713	ADJUST LOCAL OSCILLATOR COMPONENTS	35	32	35
U749	ISOLATE MALFUNCTIONS IN PATCH PANELS	34	34	36
W836	CLEAN MAINTENANCE WORK AREAS	72	74	65
W853	PAINT EQUIPMENT OR FACILITIES	51	50	37

TABLE 18

REPRESENTATIVE TASKS WHICH BEST DIFFERENTIATE
DAFSC 30450, 30454, AND 30456 PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 30450	DAFSC 30454	DAFSC 30456
I190	CALIBRATE RADIO RELAY PECULIAR TEST EQUIPMENT	34	-	1
K281	ADJUST PILOT TONE DETECTOR COMPONENTS	49	3	18
K283	ADJUST RECEIVE COMBINER COMPONENTS	45	9	10
K292	ALIGN FM RECEIVERS	46	18	21
L346	ADJUST FM MODULATOR COMPONENTS	39	11	22
L362	ALIGN FM SHF TRANSMITTERS, EXCITERS, OR UP CONVERTERS	34	2	28
M419	ADJUST FREQUENCY GENERATOR COMPONENTS	35	7	27
M420	ADJUST GROUP OR LEVEL REGULATOR COMPONENTS	43	3	26
M422	ADJUST IN-BAND SIGNALING AND CONTROL CIRCUIT COMPONENTS	31	2	12
M426	ADJUST TWO WIRE/FOUR WIRE CONVERSION AND TERMINATION CIRCUIT COMPONENTS	38	5	21
M427	ALIGN FREQUENCY DIVISION MULTIPLEXERS	47	2	29
N463	ADJUST FREQUENCY SHIFT KEYER COMPONENTS	31	9	20
K272	ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	14	45	17
K289	ADJUST UHF RECEIVE RF AMPLIFIER COMPONENTS	12	47	6
K314	ISOLATE MALFUNCTIONS IN SOLID STATE SQUELCH CIRCUITS	13	37	9
K328	ISOLATE MALFUNCTIONS IN TUBE TYPE SIDEBAND RECEIVERS	5	30	1
K334	PERFORM PMIs ON AM RECEIVERS	4	51	1
L404	ISOLATE MALFUNCTIONS IN UHF POWER AMPLIFIERS	11	40	7
L410	PERFORM PMIs ON AM UHF TRANSMITTERS OR EXCITERS	2	35	2
P546	ISOLATE MALFUNCTIONS IN RECORDERS OR REPRODUCERS	-	32	2
P552	PERFORM PMIs ON RECORDERS OR REPRODUCERS	1	33	2
U729	ALIGN TRANSCEIVERS	15	41	5
I745	ISOLATE MALFUNCTIONS IN LINE AMPLIFIERS	19	32	14
I755	ISOLATE MALFUNCTIONS IN SOLID STATE AUDIO AMPLIFIERS	19	36	9
G146	CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	8	8	43
G150	CONFIGURE PATCH PANELS FOR SPREAD SPECTRUM OPERATIONS	1	2	32
G167	SET UP ENCODING OR DECODING EQUIPMENT	4	8	42
H173	ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	1	1	53
H176	PERFORM ACQUISITION FUNCTIONS	-	1	49
H178	PERFORM TRACKING FUNCTIONS	-	1	50
I183	BLEED OR PRESSURIZE SYSTEMS	15	8	48
J270	PERFORM PMIs ON PARABOLIC ANTENNAS	13	2	40
K337	REPLENISH HELIUM IN CRYOGENIC REFRIGERATION SYSTEMS	-	1	34
S621	ISOLATE MALFUNCTIONS IN ANTENNA DRIVE MOTORS	-	1	44

TABLE 19

BACKGROUND DATA FOR DAFSC 3045X PERSONNEL

	DAFSC		
	30450	30454	30456
AVERAGE NUMBER OF TASKS PERFORMED:	86	95	109
AVERAGE MONTHS TAFMS:	59	63	73
PERCENT LOCATED OVERSEAS:	55%	37%	42%
PERCENT ENTERING CAREER LADDER THROUGH RESIDENT TRAINING:	81%	81%	62%
PERCENT ENTERING CAREER LADDER BY RETRAINING:	5%	3%	27%
PERCENT MAINTAINING MICROPROCESSOR TECHNOLOGY TYPE EQUIPMENT:	23%	22%	46%
PERCENT WORKING AT THE FOLLOWING AREAS:			
AFSATCOM TERMINAL (FIXED)	-	-	26%
CONTROL TOWER	-	16%	-
DSCS TERMINAL (FIXED)	-	-	49%
MICROWAVE RADIO RELAY SITE (MOBILE)	23%	-	-
MICROWAVE RADIO RELAY SITE (FIXED)	25%	-	-
RECEIVER SITE (FIXED)	1%	22%	2%
TACSATCOM TERMINAL	-	-	20%
TRANSMITTER SITE (FIXED)	1%	23%	2%
PERCENT MAINTAINING THE FOLLOWING EQUIPMENT:			
SATELLITE TERMINALS			
AN/FSC-78	-	-	39%
AN/MSC-46	-	-	19%
AN/TSC-88	-	-	14%
AN/TSC-94	-	-	12%
HF/SSB/ISB EQUIPMENT			
618-T1	2%	11%	-
AN/FRC-153	4%	26%	-
KWM-2/2A	5%	33%	-
R-390A	-	25%	-
SHF EQUIPMENT			
AN/TRC-97A	26%	-	-
VHF/UHF EQUIPMENT			
AN/GRC-171	1%	40%	-
AN/GRR-24	2%	40%	-
AN/GRT-21	1%	30%	-
AN/GRT-22	2%	39%	-
BISS EQUIPMENT			
AN/GSS-29	13%	-	-
MULTIPLEX EQUIPMENT			
AN/FCC-98 (DIGITAL)	2%	-	42%
AN/UCC-4	18%	-	28%

TABLE 20

TEST EQUIPMENT UTILIZED BY DAFSC 3045X PERSONNEL
(PERCENT MEMBERS UTILIZING)

TEST EQUIPMENT	DAFSC 30450	DAFSC 30454	DAFSC 30456
MULTIMETERS*	89	91	90
OSCILLOSCOPES*	84	89	86
FREQUENCY SELECTIVE VOLTMETERS*	76	32	68
AUDIO FREQUENCY SIGNAL GENERATORS*	74	86	67
FREQUENCY MEASURING SETS*	73	76	62
POWER METERS*	71	65	77
RF SIGNAL GENERATORS*	69	86	74
VOLTAGE MEASURING*	68	76	67
NOISE MEASURING SETS	65	26	46
SPECTRUM ANALYZER*	63	48	82
POWER SUPPLIES*	62	72	69
DISTORTION ANALYZERS*	42	78	53
NOISE GENERATORS	42	17	47
MODULATION/DEVIATION METERS	41	33	29
TELEPHONE TEST SETS	41	20	36
BUILT-IN TEST EQUIPMENT	41	19	78
HIGH VOLTAGE PROBES*	36	46	52
CIRCUIT BOARD TESTERS	26	16	3
POWER AMPLIFIERS	26	37	47
TUBE TESTERS	23	68	4
SEMICONDUCTOR TESTERS	21	44	13
TELETYPE TEST SETS	20	4	31
VSWR METERS	20	58	49
PRESSURE GAUGES	15	12	49
BIT ERROR RATE TEST SETS	11	5	64
CAPACITOR TEST SETS	10	33	9
INSULATION TEST SETS	9	25	5
JITTER METERS	8	2	8
LOGIC PROBES	8	9	18
FLUTTER METERS	2	32	2
TIME DOMAIN REFLECTOMETERS	1	5	4
VACUUM PUMPS	1	1	47
LEISK ANALYZERS	-	-	2

*EQUIPMENT UTILIZED BY AT LEAST 30 PERCENT OF DAFSC 30450, 30454, AND 30456 PERSONNEL.

TABLE 21

JOB SATISFACTION AND RELATED DATA FOR DAFSC 3045X PERSONNEL
(PERCENT MEMBERS RESPONDING)

	DAFSC		
	30450	30454	30456
I FIND MY JOB:			
NO RESPONSE	1	1	1
DULL	14	15	11
SO-SO	19	19	20
INTERESTING	66	65	68
MY JOB UTILIZES MY TALENTS:			
NO RESPONSE	1	1	-
NOT AT ALL TO VERY LITTLE	26	26	25
FAIRLY WELL OR BETTER	73	73	75
MY JOB UTILIZES MY TRAINING:			
NO RESPONSE	1	1	1
NOT AT ALL TO VERY LITTLE	27	31	24
FAIRLY WELL OR BETTER	72	68	75
I PLAN TO REENLIST:			
NO RESPONSE	1	-	1
NO OR PROBABLY NO	54	60	51
YES OR PROBABLY YES	45	40	48

ANALYSIS OF ELECTRONIC PRINCIPLES DATA

In addition to the standard job inventory, an Electronics Principles Inventory (EPI) was administered to approximately 2,100 AFS 304X0, 304X4, and 304X6 incumbents. The EPI is a knowledge based job inventory which identifies the range of electronic principles personnel must understand to perform any electronics oriented job. Training managers can use EPI data in conjunction with OSR data and other information to determine precisely what specialists do and what electronic principles they employ on the job. By using EPI and OSR data in this manner, training managers satisfy an important aspect of the instructional systems development (ISD) process.

Description

The EPI differs from the usual task-oriented survey in two major respects. First, the EPI asks two general questions: "What do you do?" and "What electronic knowledge do you use in performing your job?" The usual task survey concentrates on only one question: "What do you do?" The second difference is the EPI can be administered to anyone who works with electronics. That is, it is general in nature, unlike the usual job inventory which is developed for a particular specialty or group of specialties.

The EPI has both a background and principles section. The background section is very similar to that found in standard job inventories, and is concerned with such information as DAFSC, months TAFMS, autovon extension, MAJCOM, etc. The principles section is used to assess the electronic knowledge needed to adequately perform a job. This section consists of 1,258 items under 62 subject matter areas covering all electronic principles training given at the five ATC Technical Training Centers. The EPI was developed in a cooperative project between USAFOMC and the training centers. (For more information concerning the EPI, see the USAFOMC October 1977 Technical Note "The Development and Application of the Electronic Principles Job Inventory". For more information concerning the results of the EPI with the individual AFS 304X0, 304X4, and 304X6 career ladders, see the individual EPI reports; AFPT 90-304-222, all dated September 1977.)

Table 22 lists the 62 subject matter areas in the EPI, and the percentage of 5-skill level personnel utilizing each subject matter area. In addition, Table 22 highlights (by asterisks) those subject matter areas which are utilized by at least 50 percent of 5-skill level personnel in all three career ladders. This is important to note since if the three ladders were merged, in all likelihood basic resident training for the three specialties would also be merged. By highlighting those subject matter areas which are utilized by at least 50 percent of the 5-skill level personnel from all three ladders, training personnel can note which subject matter areas are common for all three ladders.

Table 23 shows a graphic representation of the data found in Table 22. When comparing the number of electronic areas utilized by at least 50 percent of 304X0, 304X4, and 304X6 5-skill level personnel, Table 23 reveals that DAFSC 30456 personnel require the most extensive electronics principles knowledge to adequately perform their job. Thirty-four of the 62 subject

matter areas in the EPI are utilized by at least 50 percent of DAFSC 30456 personnel, some of which include direct current and voltage, transistors, mathematics and multimeter uses. In addition, there are several subject areas which are utilized by fairly high percentages of DAFSC 30456 personnel only, some of which include solid state special purpose devices, logic functions, boolean equations, counters, timing circuits, and waveshaping circuits. Table 23 also reveals that DAFSC 30454 personnel utilize the next highest number of electronic principles, and it was upon this fact that the original proposal of surveying only the 304X0 and 304X6 specialties was modified to include the 304X4 specialty. Table 22 reveals that several subject areas are relatively unique to DAFSC 30454 personnel, some of which include electron tubes, electron tube amplifiers and circuits, AM systems, and single sideband systems. Finally, Table 23 reveals that DAFSC 30450 personnel need the least extensive electronics background of the three specialties, with 27 subject areas being utilized by at least 50 percent of these incumbents. In addition, it is interesting to note that there are no subject areas utilized by high percentages of DAFSC 30450 incumbents that are not also utilized by similar percentages of either DAFSC 30454 or 30456 personnel.

Tables 24, 25, and 26 provide some training criteria for each subject matter area for each specialty. Those subject matter areas which have more than 50 percent members utilizing (heavy usage subject matter areas) should probably be trained in the basic resident school. Those subject matter areas utilized by less than 30 percent of the 5-skill level incumbents (low usage subject matter areas) should not be trained in the basic resident school. Moderate usage subject matter areas (30-50 percent members utilizing) must be looked at closely, and training personnel must determine whether these subject matter areas should be included in the basic resident school.

Table 24 reveals the heavy usage, moderate usage, and low usage subject matter areas for DAFSC 30450 personnel. As stated earlier, 27 subject matter areas were identified as being heavily utilized by these personnel, and some of these include oscillators, coupling, relays, and electron tubes. Twenty-five subject matter areas were identified in the low usage category and probably should not be trained. Some of these low usage subject matter areas include counters, lasers, and AM systems. Finally, 10 subject matter areas fall in the moderate usage category, and include speakers and antennas. These 10 areas need to be examined to determine their utility for basic resident training.

Table 25 reveals the heavy, moderate, and low usage subject matter areas for DAFSC 30454 personnel. Thirty-three areas fell into the heavy usage category, some of which include semiconductor diodes, RCL circuits, and relays. These subject matter areas should definitely be included in basic resident training for AFS 304X4 personnel. Twenty-two subject matter areas are in the low usage category, and include numbering systems, photo sensitive devices, and programming. Finally, seven areas were utilized by 30-50 percent of DAFSC 30454 personnel, such as FM systems, magnetism, and multivibrators. Training personnel must decide if basic resident training is the most efficient and effective method for teaching these subject matter areas.

Table 26 reveals the subject matter breakdown for DAFSC 30456 personnel and reinforces the findings in Table 23. That is, DAFSC 30456 personnel have the highest number of subject matter areas (34) in the heavy usage category when compared to DAFSC 30450 and 30454 personnel. This relatively high number of heavy usage subject matter areas is probably due to the fact that a substantial percentage of DAFSC 30456 personnel report maintaining substantially different types of satellite earth terminals, which are generally somewhat more electronically advanced than some of the radios maintained by their counterparts. Thirty-four subject matter areas are utilized by more than 50 percent of DAFSC 30456 personnel, and probably should be included in basic resident training. Some of these high usage subject areas include antennas, oscillators, FM systems, speakers and timing circuits. Finally, 18 subject matter areas need to be examined closely by training personnel to determine their appropriateness in basic resident training. Examples of these low usage areas include registers, input/output devices, and lasers.

Summary

Even though incumbents in all three specialties attend the same ten week electronic fundamentals course, EPI data indicates that differing degrees of overall electronic knowledge can be found for the three career ladders. DAFSC 30456 personnel seem to require the broadest levels of electronic principles knowledge, with at least 50 percent of these incumbents reporting they utilize 34 of the 62 different subject matter areas. DAFSC 30454 personnel are next in line in terms of subject matter area utilization with these incumbents reporting 33 areas in the heavy usage category. In addition, EPI data reveals that 304X0 personnel need the least amount of electronic fundamentals training, with these 5-skill level personnel reporting only 27 subject matter areas in the heavy usage category. Finally, it was the similarity in the EPI subject areas utilized by DAFSC 30454 and 30456 personnel that indicated to personnel in the field that DAFSC 304X4 personnel should be included in the job inventory along with DAFSC 304X0 and 304X6 personnel.

TABLE 22

SUMMARY OF ELECTRONIC PRINCIPLES UTILIZED BY DAFSC
30450, 30454, AND 30456 PERSONNEL
(PERCENT MEMBERS UTILIZING)

SUBJECT AREAS	DAFSC 30450 (N=1,163)	DAFSC 30454 (N=832)	DAFSC 30456 (N=59)
MATHEMATICS*	72	74	92
DIRECT CURRENT AND VOLTAGE*	92	91	97
RESISTANCE*	78	77	92
MULTIMETER USES*	86	85	97
ALTERNATING CURRENT*	73	77	83
INDUCTORS AND INDUCTIVE REACTANCE*	71	72	78
CAPACITORS AND CAPACITIVE REACTANCE*	79	73	86
TRANSFORMERS*	69	72	80
MAGNETISM	33	31	41
RCL CIRCUITS*	52	59	59
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	24	36	37
FILTERS*	72	71	81
COUPLING*	55	66	68
SOLDERING*	82	82	92
RELAYS*	75	78	68
MICROPHONES	29	77	59
SPEAKERS	35	71	73
OSCILLOSCOPES*	78	76	97
SEMICONDUCTOR DIODES*	75	76	80
TRANSISTORS*	71	75	73
TRANSISTOR AMPLIFIERS*	61	67	68
SOLID STATE SPECIAL PURPOSE DEVICES	42	38	63
POWER SUPPLIES*	74	79	97
OSCILLATORS*	72	70	88
MULTIVIBRATORS	37	36	47
LIMITERS AND CLAMPERS	42	47	42
ELECTRON TUBES	50	71	12
ELECTRON TUBE AMPLIFIERS AND CIRCUITS	40	63	15
SPECIAL PURPOSE ELECTRON TUBES	22	36	19
HETERODYNING, MODULATION, AND DEMODULATION*	78	77	95
AM SYSTEMS	15	68	15
FM SYSTEMS	72	30	98
NUMBERING SYSTEMS	4	6	20
LOGIC FUNCTIONS	12	28	46
BOOLEAN EQUATIONS	8	16	34
COUNTERS	15	28	42
TIMING CIRCUITS	23	25	51

TABLE 22 (CONT)

SUMMARY OF ELECTRONIC PRINCIPLES UTILIZED BY DAFSC
30450, 30454, AND 30456 PERSONNEL
(PERCENT MEMBERS UTILIZING)

SUBJECT AREAS	DAFSC 30450 (N=1,163)	DAFSC 30454 (N=832)	DAFSC 30456 (N=59)
USE OF SIGNAL GENERATORS*	77	78	95
MOTORS AND GENERATORS	28	54	56
METER MOVEMENTS*	79	77	86
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	8	8	20
WAVESHAPING CIRCUITS	26	24	54
SINGLE SIDEBAND SYSTEMS	23	51	17
PULSE MODULATION SYSTEMS	4	4	20
ANTENNAS	42	55	90
TRANSMISSION LINES	34	50	58
WAVEGUIDES AND CAVITY RESONATORS	53	6	83
MICROWAVE AMPLIFIERS AND OSCILLATORS	65	3	64
REGISTERS	6	22	19
STORAGE DEVICES	7	21	20
DIGITAL TO ANALOG CONVERTERS	2	13	42
PHANTASTRONS	-	1	2
SCHMITT TRIGGERS	31	23	41
CABLE FABRICATION	40	57	46
INPUT/OUTPUT DEVICES	11	24	22
PHOTO SENSITIVE DEVICES	2	11	10
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	2	8	15
INFRARED	-	-	-
LASERS	-	-	-
DISPLAY TUBES	-	1	7
PROGRAMMING	1	1	-
DB AND POWER RATIOS*	79	68	93

* SUBJECT AREAS UTILIZED BY AT LEAST 50 PERCENT OF ALL 5-SKILL LEVEL PERSONNEL

TABLE 23

GRAPHIC DISPLAY OF THE NUMBER OF ELECTRONIC PRINCIPLES SUBJECT AREAS UTILIZED BY AT LEAST 50 PERCENT OF DAFSC 30450, 30454, AND 30456 PERSONNEL

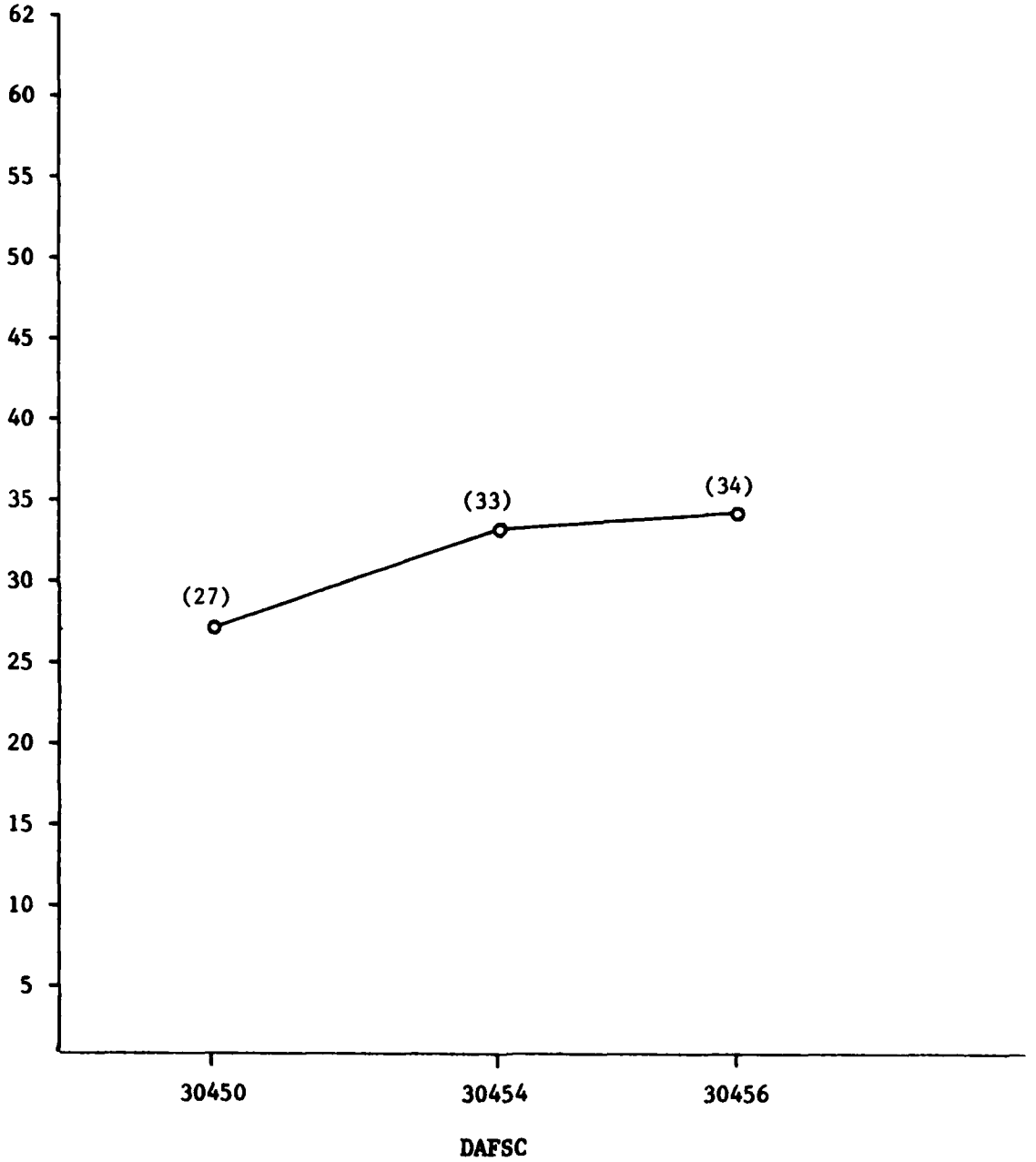


TABLE 24

CATEGORIZATION OF ELECTRONIC PRINCIPLES SUBJECT AREAS
BY DAFSC 30450 PERSONNEL

HEAVY USAGE SUBJECT AREAS (50 PERCENT OR MORE)	
MATHEMATICS	SEMICONDUCTOR DIODES
DIRECT CURRENT OR VOLTAGE	TRANSISTORS
RESISTANCE	TRANSISTOR AMPLIFIERS
MULTIMETER USES	POWER SUPPLIES
ALTERNATING CURRENT	OSCILLATORS
INDUCTORS AND INDUCTIVE REACTANCE	ELECTRON TUBES
CAPACITORS AND CAPACITIVE REACTANCE	HETERODYNING, MODULATION, & DEMODULATION
TRANSFORMERS	
RCL CIRCUITS	FM SYSTEMS
FILTERS	USE OF SIGNAL GENERATORS
COUPLING	METER MOVEMENTS
SOLDERING	WAVEGUIDES & CAVITY RESONATORS
RELAYS	MICROWAVE AMPLIFIERS & OSCILLATORS
OSCILLOSCOPES	DB AND POWER RATIOS

MODERATE USAGE SUBJECT AREAS (30 - 50 PERCENT)	
MAGNETISM	ELECTRON TUBE AMPLIFIERS & CIRCUITS
SPEAKERS	ANTENNAS
SOLID STATE SPECIAL PURPOSE DEVICES	TRANSMISSION LINES
MULTIVIBRATORS	SCHMITT TRIGGERS
LIMITERS AND CLAMPERS	CABLE FABRICATION

LOW USAGE SUBJECT AREAS (LESS THAN 30 PERCENT)	
SERIES & PARALLEL RESONANCE (TIME CONSTANTS)	SINGLE SIDEBAND SYSTEMS
	PULSE MODULATION SYSTEMS
MICROPHONES	SPECIAL PURPOSE ELECTRON TUBES
REGISTERS	AM SYSTEMS
STORAGE DEVICES	NUMBERING SYSTEMS
DIGITAL TO ANALOG CONVERTERS	LOGIC FUNCTIONS
PHANTASTRONS	BOOLEAN EQUATIONS
INPUT/OUTPUT DEVICES	COUNTERS
PHOTO SENSITIVE DEVICES	TIMING CIRCUITS
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	MOTORS AND GENERATORS
	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
INFRARED	LASERS
WAVESHAPING CIRCUITS	DISPLAY TUBES
PROGRAMMING	

TABLE 25

CATEGORIZATION OF ELECTRONIC PRINCIPLES SUBJECT AREAS
UTILIZED BY DAFSC 30454 PERSONNEL

HEAVY USAGE SUBJECT AREAS (50 PERCENT OR MORE)	
MATHEMATICS	TRANSISTORS
DIRECT CURRENT AND VOLTAGE	TRANSISTOR AMPLIFIERS
RESISTANCE	POWER SUPPLIES
MULTIMETER USES	OSCILLATORS
ALTERNATING CURRENT	ELECTRON TUBES
INDUCTORS AND INDUCTIVE REACTANCE	ELECTRON TUBE AMPLIFIERS & CIRCUITS
CAPACITORS AND CAPACITIVE REACTANCE	HETERODYNING, MODULATION, AND DEMODULATION
TRANSFORMERS	RCL CIRCUITS
AM SYSTEMS	FILTERS
USE OF SIGNAL GENERATORS	COUPLING
MOTORS AND GENERATORS	METER MOVEMENTS
SOLDERING	RELAYS
SINGLE SIDEBAND SYSTEMS	MICROPHONES
ANTENNAS	SPEAKERS
TRANSMISSION LINES	OSCILLOSCOPES
CABLE FABRICATION	SEMICONDUCTOR DIODES
DB AND POWER RATIOS	

MODERATE USAGE SUBJECT AREAS (30 - 50 PERCENT)	
MAGNETISM	LIMITERS AND CLAMPERS
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	SPECIAL PURPOSE ELECTRON TUBES
SOLID STATE SPECIAL PURPOSE DEVICES	FM SYSTEMS
	MULTIVIBRATORS

LOW USAGE SUBJECT AREAS (LESS THAN 30 PERCENT)	
NUMBERING SYSTEMS	REGISTERS
LOGIC FUNCTIONS	STORAGE DEVICES
BOOLEAN EQUATIONS	DIGITAL TO ANALOG CONVERTERS
COUNTERS	PHANTASTRONS
TIMING CIRCUITS	SCHMITT TRIGGERS
SATURABLE REACTORS & MAGNETIC AMPLIFIERS	INPUT/OUTPUT DEVICES
WAVESHAPING CIRCUITS	PHOTO SENSITIVE DEVICES
PULSE MODULATION SYSTEMS	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
WAVEGUIDES AND CAVITY RESONATORS	INFRARED
MICROWAVE AMPLIFIERS AND OSCILLATORS	DISPLAY TUBES
LASERS	
PROGRAMMING	

TABLE 26

CATEGORIZATION OF ELECTRONIC PRINCIPLES SUBJECT AREAS
UTILIZED BY DAFSC 30456 PERSONNEL

HEAVY USAGE SUBJECT AREAS (MORE THAN 50 PERCENT)	
MATHEMATICS	TRANSISTORS
DIRECT CURRENT AND VOLTAGE	TRANSISTOR AMPLIFIERS
RESISTANCE	SOLID STATE SPECIAL PURPOSE DEVICES
MULTIMETER USES	POWER SUPPLIES
ALTERNATING CURRENT	OSCILLATORS
INDUCTORS AND INDUCTIVE REACTANCE	HETERODYNING, MODULATION, AND DEMODULATION
CAPACITORS AND CAPACITIVE REACTANCE	TRANSFORMERS
FM SYSTEMS	RCL CIRCUITS
TIMING CIRCUITS	FILTERS
USE OF SIGNAL GENERATORS	COUPLING
MOTORS AND GENERATORS	SOLDERING
METER MOVEMENTS	RELAYS
WAVESHAPING CIRCUITS	MICROPHONES
ANTENNAS	SPEAKERS
TRANSMISSION LINES	OSCILLOSCOPES
WAVEGUIDES AND CAVITY RESONATORS	SEMICONDUCTOR DIODES
MICROWAVE AMPLIFIERS & OSCILLATORS	
DB AND POWER RATIOS	

MODERATE USAGE SUBJECT AREAS (30 - 50 PERCENT)	
MAGNETISM	DIGITAL TO ANALOG CONVERTERS
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	BOOLEAN EQUATIONS
MULTIVIBRATORS	COUNTERS
LIMITERS AND CLAMPERS	SCHMITT TRIGGERS
LOGIC FUNCTIONS	CABLE FABRICATION

LOW USAGE SUBJECT AREAS (LESS THAN 30 PERCENT)	
SATURABLE REACTORS & MAGNETIC AMPLIFIERS	ELECTRON TUBES
SINGLE SIDEBAND SYSTEMS	ELECTRON TUBE AMPLIFIERS & CIRCUITS
PULSE MODULATION SYSTEMS	SPECIAL PURPOSE ELECTRON TUBES
REGISTERS	AM SYSTEMS
STORAGE DEVICES	NUMBERING SYSTEMS
PHANTASTRONS	INFRARED
INPUT/OUTPUT DEVICES	LASER
PHOTO SENSITE DEVICES	DISPLAY TUBES
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	PROGRAMMING

TRAINING ANALYSIS

A primary reason for initiating this report was to explore the possibility of merging the 304X0, 304X4, and 304X6 career ladders. If this proposed merger takes place (this report recommends keeping the ladders separate), the impact on resident classroom training would cause some substantial training changes. The five ABR courses for the three career ladders (the 304X6 specialty has three ABR courses) would probably be combined into one fairly lengthy course, with graduates being assigned to wideband, ground radio, or satellite earth terminal sites. Although the merger may be attractive to some in terms of alleviating an overseas imbalance in the 304X0 specialty or training dollars, the effectiveness of new graduates out in the field would be questionable. The findings of the CAREER LADDER STRUCTURE section suggest these three types of radio systems are fairly distinct and different from each other, with very few 304X0 personnel maintaining 304X4 or 304X6 radio equipment, etc. It would probably be fairly difficult to come up with a reasonable length resident course that would train first enlistment personnel to the same degree of effectiveness as current 304X0, 304X4, and 304X6 resident training. Even though the findings of this study do not support a merger of the 304X0, 304X4, and 304X6 specialties, several aspects of training across the three career ladders make for an interesting analysis. One of those aspects of training involves the relative difficulty of tasks in the job inventory. In this section, the 304X0, 304X4, 304X6, and combined task difficulty ratings will be examined, and similarities and differences in those ratings will be noted.

(Specific training documents pertaining to the 304X0, 304X4, and 304X6 career ladder are not discussed in this section. Instead, analyses pertaining to AFR 39-1 Specialty Descriptions and Specialty Training Standards (STSs), for the basic resident courses can be found in the separate reports concerning the three career ladders (AFPT 90-304-422, Volumes II, III, and IV).)

Task Difficulty

The relative difficulty of each task in the job inventory was assessed through the ratings of 127 experienced 7- and 9-skill level Wideband Communications Equipment, Ground Radio Communications, and Space Communications Systems Equipment NCOs. These tasks were processed to produce an ordered listing of all tasks in terms of their relative difficulty and were standardized to have an average difficulty of 5.0 (standard deviation equals 1.0). (For a more complete explanation of these ratings, see the Task Factor Administration section in the INTRODUCTION.)

Table 27 provides some background information about the 127 task difficulty raters described above. This table reveals roughly equal percentages of DAFSC 304X0, 304X4, and 304X6 personnel participated in the task difficulty ratings. Having fairly equal percentages of personnel from all three specialties is important, since this reduces the chances of ratings being biased for any one career ladder. Table 27 also reveals the major command distribution for both the percentage of personnel assigned to each career ladder and the percent of task difficulty raters assigned to each major command. Overall, a very representative major command sample was obtained,

with similar percentages of the personnel assigned and the task difficulty raters utilized being noted.

Table 28 lists those tasks rated the most difficult by all 127 304XX raters, as well as listing the task difficulty ratings and percent members performing each task for 304X0, 304X4, and 304X6 respondents. Table 28 reveals that most of the tasks rated the most difficult by all 304XX raters involved isolating some sort of equipment malfunction, such as isolating malfunctions in digital to BPSK modems, isolating malfunctions in solid state synthesizers, or isolating malfunctions in URG automatic switchboards. In addition, when comparing the ratings of 304X0, 304X4, and 304X6 task difficulty raters, Table 28 reveals that in most cases the tasks are rated about the same in difficulty regardless of the specialty, and that there is a high level of agreement across the 304XX specialties as to the most difficult tasks in the inventory. Also, Table 28 reveals that with the exception of 304X6 personnel, most of the tasks are performed by less than ten percent of the personnel in the 304X0 and 304X4 specialties.

Most of the tasks rated about average in difficulty by the 127 304XX task difficulty raters are also maintenance oriented, but seem to involve adjusting equipment more than isolating malfunctions of equipment. Examples of these tasks rated about average in difficulty include adjusting AFC components, adjusting noise amplifier components, and adjusting HF receive RF amplifier components. Table 29 also reveals that there is a fairly high degree of agreement between specialties as to the average difficulty of these tasks, with the task difficulty ratings being fairly similar across 304X0, 304X4, and 304X6 task difficulty raters. Finally, Table 29 reveals that overall, somewhat higher percentages of 304X0, 304X4, and 304X6 can be identified as performing tasks rated about average in difficulty rather than those rated the most difficult.

Finally, Table 30 lists the tasks rated the least difficult by senior 304XX personnel. Generally, these tasks involve aspects of routine radio or general maintenance, such as cleaning maintenance work areas, painting equipment or facilities, or maintaining office supplies. Similar to Tables 28 and 29, Table 30 reveals a high level of agreement between the 304X0, 304X4, and 304X6 task difficulty raters as to which tasks in the job inventory were the least difficult. In addition, it is interesting to note that somewhat higher percentages of 304X0, 304X4, and 304X6 personnel perform these relatively easy tasks than those rated average or above average in difficulty.

Summary

It is interesting to note that even though the CAREER LADDER STRUCTURE and ANALYSIS OF DAFSC GROUPS sections reveal little commonality as to the jobs and tasks performed and equipment maintained, these senior task difficulty raters appear to have a fairly good understanding of what goes on in each other's specialty, since the task difficulty ratings for all 863 tasks were very similar for 304X0, 304X4, and 304X6 task difficulty raters.

TABLE 27

MAJOR COMMAND REPRESENTATION OF 304X0, 304X4, and 304X6 TASK DIFFICULTY RATERS

	304X0		304X4		304X6	
MAJOR COMMAND	PERCENT OF ASSIGNED	PERCENT OF TASK DIFFICULTY RATERS	PERCENT OF ASSIGNED	PERCENT OF TASK DIFFICULTY RATERS	PERCENT OF ASSIGNED	PERCENT OF TASK DIFFICULTY RATERS
AFCC	72	72	63	74	83	80
ESC	-	-	10	4	-	5
ATC	2	10	4	6	6	13
TAC	7	3	9	6	-	-
USAFE	3	5	-	2	-	-
OTHER	16	10	14	8	11	2
TOTAL	100	100	100	100	100	100

TOTAL NUMBER OF TASK DIFFICULTY RATERS - 127

TOTAL NUMBER OF 304X0 TASK DIFFICULTY RATERS - 39
PERCENT OF 304X0 RATERS IN TOTAL TASK DIFFICULTY SAMPLE - 31%

TOTAL NUMBER OF 304X4 TASK DIFFICULTY RATERS - 50
PERCENT OF 304X4 RATERS IN TOTAL TASK DIFFICULTY SAMPLE - 39%

TOTAL NUMBER OF 304X6 TASK DIFFICULTY RATERS - 38
PERCENT OF 304X6 RATERS IN TOTAL TASK DIFFICULTY SAMPLE - 30%

TABLE 28

REPRESENTATIVE TASKS RATED THE MOST DIFFICULT BY 304XX TASK DIFFICULTY RATERS

TASKS		304XX TASK DIFFICULTY	304X0 TASK DIFFICULTY	304X4 TASK DIFFICULTY	304X6 TASK DIFFICULTY	PERCENT MEMBERS PERFORMING 304X0 (N=996)	304X4 (N=1,618)	304X6 (N=361)
A8	DRAFT BUDGET OR FINANCIAL REQUIREMENTS	7.72	7.11	7.89	7.66	7.0	7.8	7.5
R605	ISOLATE MALFUNCTIONS IN DIGITAL TO BPSK MODEMS	7.06	6.94	6.52	7.20	.7	.7	33.5
R606	ISOLATE MALFUNCTIONS IN DIGITAL TO QPSK MODEMS	7.00	6.71	6.52	7.16	.7	.7	35.2
C85	WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	6.90	6.67	6.85	6.85	8.5	9.3	7.5
K297	ISOLATE MALFUNCTIONS IN PHASE CORRELATORS	6.83	6.93	6.56	6.81	3.6	2.3	6.6
C63	EVALUATE BUDGET OR FINANCIAL REQUIREMENTS	6.80	6.44	6.74	7.01	6.5	6.4	6.4
Q587	ISOLATE MALFUNCTIONS IN URG STATUS DISPLAY ENCODER/TRANSMITTERS	6.74	5.69	7.23	5.78	.2	5.5	1.1
D101	DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	6.72	7.03	6.81	6.13	2.9	2.0	5.3
K296	ISOLATE MALFUNCTIONS IN PARAMETRIC OR LOW NOISE AMPLIFIERS	6.71	6.57	5.97	7.30	12.1	3.4	40.2
U767	*ISOLATE MALFUNCTIONS IN SOLID STATE SYNTHESIZERS*	6.67	6.45	6.90	6.08	14.6	14.2	24.9
M453	ISOLATE MALFUNCTIONS IN TUBE TYPE PULSE POSITION MODULATION MULTIPLEXERS	6.65	6.65	6.24	6.81	1.0	.5	1.7
S629	ISOLATE MALFUNCTIONS IN TRACKING SYSTEMS	6.65	5.74	6.58	6.85	.7	.5	40.4
M452	ISOLATE MALFUNCTIONS IN TUBE TYPE PULSE DURATION MODULATION MULTIPLEXERS	6.62	6.55	6.32	6.82	.6	.5	1.7
Q578	ISOLATE MALFUNCTIONS IN URG AUTOMATIC SWITCHBOARDS	6.60	5.69	7.28	5.78	.2	3.2	.8
S625	ISOLATE MALFUNCTIONS IN MAGIC T NETWORKS	6.59	5.46	6.58	6.76	.2	.4	18.8
Q588	ISOLATE MALFUNCTIONS IN URG STATUS DISPLAY READOUTS	6.58	5.69	6.94	5.78	.2	6.1	1.1
S627	ISOLATE MALFUNCTIONS IN TRACKING RECEIVERS	6.57	5.52	6.58	6.78	.7	.7	39.9
A9	DRAFT SUPPLEMENTS OR CHANGES TO DIRECTIVES	6.57	6.64	6.50	6.27	11.6	13.5	10.5
B52	SUPERVISE CIVILIAN PERSONNEL	6.56	6.57	6.74	5.91	2.2	5.1	3.9
M451	ISOLATE MALFUNCTIONS IN TUBE TYPE PULSE CODED MODULATION MULTIPLEXERS	6.55	6.69	6.15	6.55	.6	.5	2.5
S620	ALIGN TRACKING SYSTEMS	6.53	5.55	6.52	6.74	.8	.6	39.1

TABLE 28 (CONTINUED)

REPRESENTATIVE TASKS RATED THE MOST DIFFICULT BY 304XX TASK DIFFICULTY RATERS

TASKS		304XX TASK DIFFICULTY	304X0 TASK DIFFICULTY	304X4 TASK DIFFICULTY	304X6 TASK DIFFICULTY	PERCENT MEMBERS PERFORMING 304X0 (N=996)	304X4 (N=1,618)	304X6 (N=361)
S628	ISOLATE MALFUNCTIONS IN TRACKING SERVO CONTROLS	6.53	5.25	6.97	6.75	.7	.7	37.1
Q586	ISOLATE MALFUNCTIONS IN URG REMOTE CONTROL EQUIPMENT	6.52	5.69	6.89	5.78	.2	6.5	.8
R598	ADJUST DIGITAL TO QUADRAPHASE SHIFT KEYING (QPSK) MODEM COMPONENTS	6.52	6.00	5.87	6.78	.7	.7	33.5
M439	ISOLATE MALFUNCTIONS IN SOLID STATE PULSE CODED MODULATION MULTIPLEXERS	6.49	6.67	6.38	6.19	3.1	.4	20.5
L379	ISOLATE MALFUNCTIONS IN FM SOLID STATE SHF TRANSMITTERS, EXCITERS, OR UP CONVERTERS	6.47	6.16	6.26	6.85	24.1	1.2	21.3
R602	ISOLATE MALFUNCTIONS IN DC TO BFSK MODEMS	6.46	6.14	6.45	6.59	1.2	1.1	5.0
M441	ISOLATE MALFUNCTIONS IN SOLID STATE PULSE POSITION MODULATION MULTIPLEXERS	6.45	6.56	6.46	6.05	1.6	.4	4.2
Q581	ISOLATE MALFUNCTIONS IN URG DIAL PULSE CONTROLS	6.45	5.69	6.78	5.78	.3	6.4	.8
K299	ISOLATE MALFUNCTIONS IN SHF SOLID STATE RECEIVE RF AMPLIFIERS	6.45	6.34	6.57	6.34	16.0	1.9	19.1

TABLE 29

REPRESENTATIVE TASKS RATED ABOUT AVERAGE IN DIFFICULTY BY 304XX TASK DIFFICULTY RATERS

TASKS		304XX TASK DIFFICULTY	304X0 TASK DIFFICULTY	304X4 TASK DIFFICULTY	304X6 TASK DIFFICULTY	PERCENT MEMBERS PERFORMING 304X0 (N=996)	304X4 (N=1,618)	304X6 (N=361)
0494	ADJUST LONG DISTANCE TERMINAL (LDT) CONSOLE COMPONENTS	5.05	5.08	4.98	5.08	1.7	.6	1.1
P537	ADJUST HOT LINE ASSEMBLY COMPONENTS	5.05	5.35	4.97	4.88	1.0	2.7	1.1
K317	ISOLATE MALFUNCTIONS IN TUBE TYPE AM DETECTORS	5.05	5.24	4.91	5.11	2.5	17.5	1.7
U748	ISOLATE MALFUNCTIONS IN MANUAL TUBE TYPE TRANSFER UNITS OR SWITCHING PANELS	5.05	5.06	5.25	4.75	3.9	1.2	2.2
0487	ADJUST AUTODIN MONITOR TEST CONSOLE COMPONENTS	5.04	4.87	4.54	5.67	.6	.6	.6
G151	ESTABLISH COMMUNICATION USER PRIORITIES	5.04	5.41	4.91	4.82	4.9	5.1	14.4
I208	PERFORM SYSTEM MODIFICATIONS	5.04	5.30	4.80	5.06	31.2	36.0	40.7
N465	ADJUST HUBBING OR MULTIPARTY EQUIPMENT COMPONENTS	5.04	5.31	5.00	4.76	5.3	.7	2.2
U694	ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS	5.03	5.15	4.94	4.99	33.1	18.2	19.9
J237	ADJUST PARABOLIC ANTENNA COMPONENTS	5.03	4.69	4.84	5.70	17.1	1.1	18.6
I188	CALIBRATE LOW FREQUENCY PECULIAR TEST EQUIPMENT	5.03	4.89	4.84	5.59	3.2	2.1	1.7
P543	ISOLATE MALFUNCTIONS IN HOT LINE ASSEMBLIES	5.03	4.93	5.23	4.70	1.3	3.8	1.4
U746	ISOLATE MALFUNCTIONS IN MAIN DISTRIBUTION FRAMES AND ASSOCIATED WIRING	5.03	4.52	5.34	5.14	20.7	14.4	24.1
J238	ADJUST RECEIVE MULTICOUPLER COMPONENTS	5.02	5.07	4.88	5.35	2.1	11.5	2.2
K278	ADJUST NOISE AMPLIFIER COMPONENTS	5.02	5.38	4.62	5.22	34.5	20.0	16.9
U693	ADJUST AUTOMATIC FAULT SENSING AND SWITCHING NETWORK COMPONENTS	5.00	5.24	4.62	5.11	17.0	10.4	24.1
S614	ADJUST ANTENNA DRIVE MOTOR COMPONENTS	5.00	3.79	4.66	5.36	.5	.8	38.2
N476	ISOLATE MALFUNCTIONS IN POLAR DC POWER SUPPLIES	4.99	5.03	4.93	5.01	10.4	3.4	8.9
U761	ISOLATE MALFUNCTIONS IN SOLID STATE GENERAL PURPOSE POWER SUPPLIES	4.99	5.15	4.80	5.11	12.8	16.1	11.6
N470	ISOLATE MALFUNCTIONS IN DC POWER SUPPLY LINE ISOLATION ASSEMBLIES OR BATTERY ISOLATION RELAY ASSEMBLIES	4.99	5.00	5.09	4.89	10.0	2.7	7.2
J226	ADJUST BILLBOARD ANTENNA COMPONENTS	4.99	5.42	4.40	5.04	1.0	1.1	1.7

TABLE 29 (CONTINUED)

REPRESENTATIVE TASKS RATED ABOUT AVERAGE IN DIFFICULTY BY 304XX TASK DIFFICULTY RATERS

TASKS		304XX TASK DIFFICULTY	304X0 TASK DIFFICULTY	304X4 TASK DIFFICULTY	304X6 TASK DIFFICULTY	PERCENT MEMBERS PERFORMING 304X0 (N=996)	304X4 (N=1,618)	304X6 (N=361)
H177	PERFORM TIMING TRANSFERS	4.99	6.44	5.19	4.85	.6	.9	18.0
U702	ADJUST COMPRESSION AMPLIFIER COMPONENTS	4.99	5.65	4.64	5.19	3.1	17.6	2.2
J229	ADJUST DUPLEXER OR DUPLEXER COMPONENTS	4.98	5.37	4.41	5.01	3.9	1.8	8.6
G150	CONFIGURE PATCH PANELS FOR SPREAD SPECTRUM OPERATIONS	4.97	5.77	5.53	4.20	1.3	1.7	29.6
U715	ADJUST MULTIPLIER COMPONENTS	4.97	5.21	4.74	4.96	15.2	16.1	8.6
K276	ADJUST HF RECEIVE RF AMPLIFIER COMPONENTS	4.97	5.04	4.81	5.31	20.2	41.5	11.6
O516	ISOLATE MALFUNCTIONS IN MICROPHONE AMPLIFIER CIRCUITS	4.96	4.99	4.98	4.83	1.5	18.6	1.7
T633	ADJUST SECURITY SYSTEM AREA SENSOR SYSTEM COMPONENTS	4.95	4.87	4.71	5.38	9.3	1.0	.8
N474	ISOLATE MALFUNCTIONS IN LOOP CURRENT CONTROL PANELS	4.95	4.94	5.13	4.82	10.7	3.6	5.8

TABLE 30

REPRESENTATIVE TASKS RATED THE LEAST DIFFICULT BY 304XX TASK DIFFICULTY RATERS

TASKS		304XX TASK DIFFICULTY	304X0 TASK DIFFICULTY	304X4 TASK DIFFICULTY	304X6 TASK DIFFICULTY	PERCENT MEMBERS PERFORMING 304X0 (N=996)	304X4 (N=1,618)	304X6 (N=361)
W858	PERFORM OPERATOR MAINTENANCE ON POWERED VEHICLES	2.69	2.58	2.81	3.30	18.6	19.8	10.5
W855	PERFORM OPERATOR MAINTENANCE ON HAND OR AUTOMATIC WEAPONS	2.69	2.42	2.99	3.28	7.5	5.7	3.3
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	2.69	2.87	2.51	3.17	65.9	63.3	74.2
W843	MAINTAIN HOUSEHOLD PLUMBING	2.69	2.68	3.06	2.63	2.2	.9	2.2
E117	MAINTAIN STATUS BOARDS OR CHARTS	2.67	2.87	2.98	2.40	31.7	36.4	34.3
W841	MAINTAIN HOUSEHOLD AIR LINES	2.66	2.95	2.76	2.63	.7	1.2	2.2
I209	POSITION SAFETY EQUIPMENT	2.63	2.55	3.09	2.52	20.9	20.5	21.6
W859	PERFORM SITE SECURITY DUTIES	2.62	2.62	2.82	2.81	21.7	18.9	24.4
D86	ADMINISTER TESTS	2.62	3.05	2.82	2.24	10.8	8.9	13.9
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	2.57	2.76	2.19	3.33	59.7	60.4	75.3
V833	SKIRT BUILDINGS	2.55	2.69	2.65	2.64	1.0	.7	.6
V815	CONSTRUCT WALKWAYS FOR SITES	2.54	2.66	2.77	2.53	3.1	2.2	2.5
W842	MAINTAIN HOUSEHOLD FUEL LINES	2.53	2.63	2.66	2.68	1.4	1.2	.8
W854	PERFORM OPERATOR MAINTENANCE ON GROUND SUPPORT EQUIPMENT	2.52	2.31	2.72	2.95	9.7	15.0	12.7
V834	SKIRT VANS	2.46	2.45	2.60	2.64	1.2	1.0	.8
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	2.41	2.28	2.93	2.24	42.2	45.9	43.8
W839	LUBRICATE VAN OR TRAILER CHASSIS	2.30	2.54	2.51	2.19	9.4	5.3	13.3
W840	MAINTAIN DINING AREA EQUIPMENT	2.28	2.82	2.09	2.44	3.4	2.2	2.5
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	2.24	2.38	2.38	2.38	51.4	51.4	35.5
I196	INSTALL OR REMOVE MOUNTING HARDWARE	2.23	2.72	2.13	2.35	27.7	37.1	40.7
A25	SCHEDULE LEAVES OR PASSES	2.16	2.25	2.53	2.00	17.7	22.2	21.1
F138	MAINTAIN OFFICE SUPPLIES	2.14	1.94	2.33	2.62	12.9	17.6	11.4
V813	CONSTRUCT SITE LATRINES	2.14	2.04	2.28	2.65	4.1	2.0	2.5
D109	SOCRE TESTS	2.02	2.26	2.04	2.33	7.7	7.6	12.5
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	1.66	1.94	1.82	1.71	32.9	36.3	44.9
I210	REMOVE OR REPLACE DESICCANTS	1.65	2.08	1.44	2.01	14.0	9.6	10.0
W837	CLEAR MOBILITY WORK AREAS	1.46	1.73	1.73	1.44	13.3	10.3	9.7
W853	PAINT EQUIPMENT OR FACILITIES	1.36	1.59	1.71	1.23	43.6	43.2	28.8
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	1.25	1.77	1.50	.97	14.8	17.9	14.1
W836	CLEAN MAINTENANCE WORK AREAS	1.08	1.52	1.29	.99	64.5	61.5	55.1

IMPLICATIONS

An examination of the tasks and jobs performed by AFS 304X0, 304X4, and 304X6 personnel reveals a wide variety of jobs are performed. Several major types of jobs, especially those involving supervision, training, or administration, such as Radio Maintenance Supervisors, Resident Technical School Instructors, or Job Controllers, are performed by substantial percentages of personnel from all three specialties. It is in these types of jobs that the specialties are fairly similar, and since these types of jobs are, in many cases, performed by senior 304XX personnel, the existing classification scheme of a common 9-skill level appears to be justified. However, any merger at a skill level lower than the 9-skill level, for example at the 5-skill level, would be detrimental to the Air Force for a number of reasons. First, even though the personnel from all three specialties are maintaining radio equipment, the technical jobs and tasks performed are substantially different between the career ladders. Relatedly, the diversity of equipment in any one specialty, regardless of a merger, is so great now that even experienced maintenance personnel sometimes have problems learning the maintenance procedures associated with an unfamiliar piece of radio equipment after a PCS move. In addition, there is very little overlap in equipment maintained (even though in some cases the frequency ranges are similar) between the specialties. Another problem is that although the personnel from all three specialties utilize a number of electronic fundamentals in common, there are also a number of principles that are relatively unique to each specialty, particularly the 304X6 career ladder. Due to the differences in the technical jobs and tasks performed, the diversity of the equipment maintained, and the differences of electronic fundamentals utilized, a consolidation of any of these specialties at this time will probably create many more problems (particularly coming up with a common training course and potential retention problems due to changing the career ladders) than it would solve (unfavorable rotation index (URI)).

A review of job satisfaction reveals some interesting trends, to which managers need to be particularly sensitive. When examining job satisfaction data, several major job groups were noted as having below average job satisfaction indices. The personnel working in job control had consistently lower job satisfaction than those personnel who were performing radio maintenance. The issue here is the fact that job control slots were created in the CONUS for 304X0 personnel to help alleviate an URI and in turn increase morale. However, based on job satisfaction data, it appears that these personnel would be better off left in a radio maintenance job than in a job control slot because radio maintenance jobs seem to have higher job satisfaction. In addition, junior personnel performing an engineering and installation (E&I) functions or a combat communications functions also appear to be somewhat dissatisfied. This is probably due to the fact that both groups spend much of their time TDY, and when they are not TDY do not have much of a job to perform. Managers and supervisors of these types of functions need to be aware of this relative job dissatisfaction and to try and find ways to improve these workers' morale.

APPENDIX A

TABLE I

REPRESENTATIVE TASKS PERFORMED BY GROUND RADIO MAINTENANCE PERSONNEL
(GRP336, N=607)

TASKS		PERCENT MEMBERS PERFORMING
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	92
K286	ADJUST SQUELCH CIRCUIT COMPONENTS	89
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	88
W836	CLEAN MAINTENANCE WORK AREAS	87
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	86
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING SOLDERING METHODS	85
I206	PERFORM CORROSION CONTROL	84
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	84
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	83
K291	ALIGN AM RECEIVERS	81
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	80
L409	PERFORM PMIs ON AM UHF TRANSMITTERS OR EXCITERS	80
L359	ALIGN AM UHF TRANSMITTERS OR EXCITERS	79
L355	ADJUST ULTRA HIGH FREQUENCY (UHF) POWER AMPLIFIER COMPONENTS	78
K334	PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMIs) ON AM RECEIVERS	77
K289	ADJUST ULTRA HIGH FREQUENCY (UHF) RECEIVE RF AMPLIFIER COMPONENTS	77
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	74
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	74
L368	ISOLATE MALFUNCTIONS IN AM SOLID STATE UHF TRANSMITTERS OR EXCITERS	73
L404	ISOLATE MALFUNCTIONS IN UHF POWER AMPLIFIERS	73
K303	ISOLATE MALFUNCTIONS IN SOLID STATE AM RECEIVERS	72
L353	ADJUST TRANSMIT GAIN, AUTOMATIC LOAD, OR AUTOMATIC LEVELING CONTROL COMPONENTS	72
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	72
U729	ALIGN TRANSCEIVERS	71
I195	INSPECT SAFETY OF EQUIPMENT	71
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	71
L348	ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	70
K272	ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	69
L354	ADJUST TRANSMITTER OR EXCITER INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	69
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	68
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	67
U692	ADJUST AUDIO AMPLIFIER COMPONENTS	67
K276	ADJUST HF RECEIVE RF AMPLIFIER COMPONENTS	66
I221	REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	66

TABLE II

REPRESENTATIVE TASKS PERFORMED BY ELECTRONIC SECURITY PERSONNEL
(GRP712, N=61)

TASKS		PERCENT MEMBERS PERFORMING
K291	ALIGN AM RECEIVERS	100
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	100
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	97
I206	PERFORM CORROSION CONTROL	95
K334	PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMIs) ON AM RECEIVERS	92
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	92
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	92
W836	CLEAN MAINTENANCE WORK AREAS	90
P552	PERFORM PMIs ON RECORDERS OR REPRODUCERS	90
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	89
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	89
K276	ADJUST HF RECEIVE RF AMPLIFIER COMPONENTS	87
I221	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	85
K318	ISOLATE MALFUNCTIONS IN TUBE TYPE AM RECEIVERS	84
P540	ADJUST RECORDER OR REPRODUCER SUBASSEMBLIES OR COMPONENTS	84
U692	ADJUST AUDIO AMPLIFIER COMPONENTS	84
P546	ISOLATE MALFUNCTIONS IN RECORDERS OR REPRODUCERS	82
P547	MECHANICALLY ALIGN RECORDERS OR REPRODUCERS	82
P541	ELECTRICALLY ALIGN RECORDERS OR REPRODUCERS	80
I212	REMOVE OR REPLACE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING	80
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	79
K295	ISOLATE MALFUNCTIONS IN HF TUBE TYPE RECEIVE RF AMPLIFIERS	77
K326	ISOLATE MALFUNCTIONS IN TUBE TYPE RECEIVE IF AMPLIFIERS	77
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	77
I213	REMOVE OR REPLACE ELECTROMECHANICAL SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	77
K303	ISOLATE MALFUNCTIONS IN SOLID STATE AM RECEIVERS	77
K277	ADJUST LIMITER COMPONENTS	77
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	75
W853	PAINT EQUIPMENT OR FACILITIES	75
K272	ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	75
W862	SECURE CLASSIFIED MATERIALS	75
K301	ISOLATE MALFUNCTIONS IN SOLID STATE AGCs	74
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	72
E120	MAKE ENTRIES ON MAINTENANCE FORMS	70

TABLE III

REPRESENTATIVE TASKS PERFORMED BY PUBLIC ADDRESS EQUIPMENT REPAIRMEN
(GRP359, N=15)

TASKS		PERCENT MEMBERS PERFORMING
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	93
P552	PERFORM PMIs ON RECORDERS OR REPRODUCERS	87
P546	ISOLATE MALFUNCTIONS IN RECORDERS OR REPRODUCERS	87
I206	PERFORM CORROSION CONTROL	87
P540	ADJUST RECORDER OR REPRODUCER SUBASSEMBLIES OR COMPONENTS	80
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	80
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	73
K286	ADJUST SQUELCH CIRCUIT COMPONENTS	73
W836	CLEAN MAINTENANCE WORK AREAS	67
P545	ISOLATE MALFUNCTIONS IN PUBLIC ADDRESS SYSTEMS	67
I195	INSPECT SAFETY OF EQUIPMENT	67
K291	ALIGN AM RECEIVERS	67
K276	ADJUST HF RECEIVE RF AMPLIFIER COMPONENTS	67
O502	ISOLATE MALFUNCTIONS IN ATC CONSOLE LIGHT GUNS	67
P553	SET UP OR REMOVE PUBLIC ADDRESS SYSTEMS	60
P547	MECHANICALLY ALIGN RECORDERS OR REPRODUCERS	60
P551	PERFORM PMIs ON PUBLIC ADDRESS SYSTEMS	60
P541	ELECTRICALLY ALIGN RECORDERS OR REPRODUCERS	60
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	60
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	60
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	60
K289	ADJUST ULTRA HIGH FREQUENCY (UHF) RECEIVE RF AMPLIFIER COMPONENTS	60
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	60
K272	ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	60
O504	ISOLATE MALFUNCTIONS IN ATC CONSOLE TRANSMITTER CONTROL CIRCUITS	60
O503	ISOLATE MALFUNCTIONS IN ATC CONSOLE RECEIVER CONTROL CIRCUITS	60
P539	ADJUST PUBLIC ADDRESS SYSTEM COMPONENTS	53
I207	PERFORM SAFETY INSPECTIONS	53
L409	PERFORM PMIs ON AM UHF TRANSMITTERS OR EXCITERS	53
K293	ALIGN SIDEBAND RECEIVERS	53
O505	ISOLATE MALFUNCTIONS IN ATC CONSOLES	53
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	47
P536	ADJUST FACSIMILE EQUIPMENT COMPONENTS	47
L410	PERFORM PMIs ON AM VHF TRANSMITTERS OR EXCITERS	47

TABLE IV

REPRESENTATIVE TASKS PERFORMED BY ENGINEERING AND INSTALLATION PERSONNEL
(GRP264, N=15)

TASKS		PERCENT MEMBERS PERFORMING
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	100
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	100
I196	INSTALL OR REMOVE MOUNTING HARDWARE	93
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	93
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	93
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING SOLDERING METHODS	93
I224	SPLICE WIRING OR CABLES	80
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	80
I195	INSPECT SAFETY OF EQUIPMENT	80
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	80
K286	ADJUST SQUELCH CIRCUIT COMPONENTS	80
I221	REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	80
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	80
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	80
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	80
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
I208	PERFORM SYSTEM MODIFICATIONS	73
K290	ADJUST VERY HIGH FREQUENCY (VHF) RECEIVE RF AMPLIFIER COMPONENTS	73
I212	REMOVE OR REPLACE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING	67
U729	ALIGN TRANSCEIVERS	67
I207	PERFORM SAFETY INSPECTIONS	67
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	67
I205	LACE CABLE ASSEMBLIES OR INTERNAL WIRING	67
K276	ADJUST HF RECEIVE RF AMPLIFIER COMPONENTS	67
K278	ADJUST NOISE AMPLIFIER COMPONENTS	60
K293	ALIGN SIDEBAND RECEIVERS	53
K289	ADJUST ULTRA HIGH FREQUENCY (UHF) RECEIVE RF AMPLIFIER COMPONENTS	53
K277	ADJUST LIMITER COMPONENTS	53
W853	PAINT EQUIPMENT OR FACILITIES	53
K272	ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	53
W836	CLEAN MAINTENANCE WORK AREAS	47
I204	ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	47
V819	INSTALL OR REMOVE COMMUNICATIONS OR CONTROL TOWERS	47
V820	INSTALL OR REMOVE FIXED COMMUNICATION EQUIPMENT	47
I194	FABRICATE SPECIAL COMPONENTS, SUCH AS TEST FIXTURES OR FUNCTION BOXES	47

TABLE V

REPRESENTATIVE TASKS PERFORMED BY AERONAUTICAL STATION AND GIANT TALK EQUIPMENT PERSONNEL
(GRP186, N=136)

TASKS		PERCENT MEMBERS PERFORMING
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	88
I206	PERFORM CORROSION CONTROL	87
U689	ADJUST AMPLITUDE OR LINE EQUALIZER COMPONENTS	84
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING SOLDERING METHODS	82
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	81
U712	ADJUST LINE AMPLIFIER COMPONENTS	81
Q574	ISOLATE MALFUNCTIONS IN FSK TELEPHONES	81
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	80
W836	CLEAN MAINTENANCE WORK AREAS	79
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	76
Q556	ADJUST FREQUENCY SHIFT KEYING (FSK) TELEPHONE COMPONENTS	75
Q554	ADJUST ALLOTTER PRESET COMPONENTS	73
Q572	ISOLATE MALFUNCTIONS IN ALLOTTER PRESETS	73
U692	ADJUST AUDIO AMPLIFIER COMPONENTS	72
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	71
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	71
Q563	ADJUST URG DIAL PULSE CONTROL COMPONENTS	70
G155	OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	69
Q562	ADJUST URG DATA BYPASS EQUIPMENT COMPONENTS	69
I221	REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	68
Q570	ADJUST URG STATUS DISPLAY READOUT COMPONENTS	68
Q581	ISOLATE MALFUNCTIONS IN URG DIAL PULSE CONTROLS	67
Q555	ADJUST DIALED FREQUENCY REGISTER COMPONENTS	67
I212	REMOVE OR REPLACE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING	65
U801	PERFORM PMIs ON LINE AMPLIFIERS	64
I213	REMOVE OR REPLACE ELECTROMECHANICAL SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	63
Q586	ISOLATE MALFUNCTIONS IN URG REMOTE CONTROL EQUIPMENT	63
E120	MAKE ENTRIES ON MAINTENANCE FORMS	63
Q580	ISOLATE MALFUNCTIONS IN URG DATA BYPASS EQUIPMENT	63
Q588	ISOLATE MALFUNCTIONS IN URG STATUS DISPLAY READOUTS	63
U745	ISOLATE MALFUNCTIONS IN LINE AMPLIFIERS	62
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	60
Q573	ISOLATE MALFUNCTIONS IN DIALED FREQUENCY REGISTERS	60
Q569	ADJUST URG STATUS DISPLAY ENCODER/TRANSMITTER COMPONENTS	60
U749	ISOLATE MALFUNCTIONS IN PATCH PANELS	60

TABLE VI

REPRESENTATIVE TASKS PERFORMED BY TITAN RADIO REPAIRMEN
(GRP330, N=11)

TASKS		PERCENT MEMBERS PERFORMING
L342	ADJUST DRIVER, INTERMEDIATE POWER, OR TRANSMIT INTERFACILITY LINK AMPLIFIER COMPONENTS	100
W836	CLEAN MAINTENANCE WORK AREAS	91
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	91
I206	PERFORM CORROSION CONTROL	91
L413	PERFORM PMIs ON FM UHF TRANSMITTERS, EXCITERS, OR UP CONVERTERS	82
F134	MAINTAIN BENCHSTOCKS	82
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	82
L414	PERFORM PMIs ON FM VHF TRANSMITTERS OR EXCITERS	73
U694	ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS	73
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	73
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	73
U693	ADJUST AUTOMATIC FAULT SENSING AND SWITCHING NETWORK COMPONENTS	73
L343	ADJUST DUMMY LOAD COMPONENTS	73
L348	ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	73
L377	ISOLATE MALFUNCTIONS IN EQUIPMENT SAFETY DEVICES, SUCH AS INTERLOCKS	73
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	64
U721	ADJUST SELECTIVE SIGNALING SUBSYSTEM COMPONENTS OTHER THAN ORDERWIRE COMPONENTS	64
L353	ADJUST TRANSMIT GAIN, AUTOMATIC LOAD, OR AUTOMATIC LEVELING CONTROL COMPONENTS	64
L356	ADJUST VERY HIGH FREQUENCY (VHF) POWER AMPLIFIER COMPONENTS	64
L346	ADJUST FM MODULATOR COMPONENTS	64
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	64
L355	ADJUST ULTRA HIGH FREQUENCY (UHF) POWER AMPLIFIER COMPONENTS	64
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	64
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	64
K292	ALIGN FM RECEIVERS	64
U713	ADJUST LOCAL OSCILLATOR COMPONENTS	64
I195	INSPECT SAFETY OF EQUIPMENT	64
L383	ISOLATE MALFUNCTIONS IN FM TUBE TYPE UHF TRANSMITTERS OR EXCITERS	64
L384	ISOLATE MALFUNCTIONS IN FM TUBE TYPE VHF TRANSMITTERS OR EXCITERS	64
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	64
L344	ADJUST EQUIPMENT SAFETY DEVICE COMPONENTS, SUCH AS INTERLOCKS	64

TABLE VII

REPRESENTATIVE TASKS PERFORMED BY RADIO RELAY EQUIPMENT PERSONNEL
(GRP267, N=291)

TASKS		PERCENT MEMBERS PERFORMING
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	90
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	87
K281	ADJUST PILOT TONE DETECTOR COMPONENTS	86
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	86
K275	ADJUST FREQUENCY MODULATION (FM) DETECTOR OR DISCRIMINATOR COMPONENTS	86
M427	ALIGN FREQUENCY DIVISION MULTIPLEXERS	85
M424	ADJUST PILOT TONE AMPLIFIER COMPONENTS	85
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	84
W836	CLEAN MAINTENANCE WORK AREAS	84
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	83
K283	ADJUST RECEIVE COMBINER COMPONENTS	83
K335	PERFORM PMIs ON FM RECEIVERS	81
K292	ALIGN FM RECEIVERS	81
L346	ADJUST FM MODULATOR COMPONENTS	79
I206	PERFORM CORROSION CONTROL	77
K278	ADJUST NOISE AMPLIFIER COMPONENTS	76
I215	*REMOVE OR REPLACE ELECTRONIC COMPONENTS* OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	75
M420	ADJUST GROUP OR LEVEL REGULATOR COMPONENTS	75
M458	PERFORM PMIs ON FREQUENCY DIVISION MULTIPLEXERS	73
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	69
L348	ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	69
U696	ADJUST BASEBAND AMPLIFIER COMPONENTS	67
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	67
G152	ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	67
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER SERVICES	66
M426	ADJUST TWO WIRE/FOUR WIRE CONVERSION AND TERMINATION CIRCUIT COMPONENTS	66
M425	ADJUST SYNC OR PILOT GENERATOR COMPONENTS	65
U713	ADJUST LOCAL OSCILLATOR COMPONENTS	65
M419	ADJUST FREQUENCY GENERATOR COMPONENTS	65
W853	PAINT EQUIPMENT OR FACILITIES	64
U694	ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS	64
K309	ISOLATE MALFUNCTIONS IN SOLID STATE PILOT TONE DETECTORS	64
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	64
G158	PERFORM BASEBAND SWEEPS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	64
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	64

TABLE VIII

REPRESENTATIVE TASKS PERFORMED BY SENIOR RADIO REPAIRMEN
(GRP663, N=38)

TASKS		PERCENT MEMBERS PERFORMING
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	97
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	97
L348	ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	95
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	95
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	92
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	92
L346	ADJUST FM MODULATOR COMPONENTS	92
U749	ISOLATE MALFUNCTIONS IN PATCH PANELS	92
K275	ADJUST FREQUENCY MODULATION (FM) DETECTOR OR DISCRIMINATOR COMPONENTS	92
U692	ADJUST AUDIO AMPLIFIER COMPONENTS	92
W836	CLEAN MAINTENANCE WORK AREAS	89
I206	PERFORM CORROSION CONTROL	89
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	89
K292	ALIGN FM RECEIVERS	89
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	89
K306	ISOLATE MALFUNCTIONS IN SOLID STATE FM RECEIVERS	89
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	89
I196	INSTALL OR REMOVE MOUNTING HARDWARE	87
K282	ADJUST PRESELECTOR COMPONENTS	87
K285	ADJUST SIDEBAND DEMODULATOR OR BALANCED MIXER COMPONENTS	87
U713	ADJUST LOCAL OSCILLATOR COMPONENTS	87
K277	ADJUST LIMITER COMPONENTS	87
L354	ADJUST TRANSMITTER OR EXCITER INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	87
K305	ISOLATE MALFUNCTIONS IN SOLID STATE FM DETECTORS OR DISCRIMINATORS	87
U717	ADJUST PILOT TONE OSCILLATOR COMPONENTS	87
U694	ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS	87
U712	ADJUST LINE AMPLIFIER COMPONENTS	87
I221	REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	87
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	84
K311	ISOLATE MALFUNCTIONS IN SOLID STATE RECEIVE IF AMPLIFIERS	84
M424	ADJUST PILOT TONE AMPLIFIER COMPONENTS	84
K335	PERFORM PMIs ON FM RECEIVERS	84
K301	ISOLATE MALFUNCTIONS IN SOLID STATE AGCs	84
K286	ADJUST SQUELCH CIRCUIT COMPONENTS	84
L350	ADJUST POWER MONITORS	84

TABLE IX

REPRESENTATIVE TASKS PERFORMED BY SPACE COMMUNICATIONS SYSTEMS PERSONNEL
(GRP234, N=163)

TASKS		PERCENT MEMBERS PERFORMING
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	98
G163	PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	96
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	96
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	90
K279	ADJUST PARAMETRIC OR LOW NOISE AMPLIFIER COMPONENTS	90
G155	OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	87
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	83
K274	ADJUST DOWN CONVERTER COMPONENTS	83
I206	PERFORM CORROSION CONTROL	81
S630	PERFORM PMIs ON TRACKING SYSTEMS	79
G147	CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	79
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	78
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	78
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	77
S617	ADJUST TRACKING DOWN CONVERTER COMPONENTS	77
G152	ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	77
K296	ISOLATE MALFUNCTIONS IN PARAMETRIC OR LOW NOISE AMPLIFIERS	77
S618	ADJUST TRACKING RECEIVER COMPONENTS	77
L349	ADJUST LIQUID COOLING SYSTEM COMPONENTS	76
I183	BLEED OR PRESSURIZE SYSTEMS	74
S629	ISOLATE MALFUNCTIONS IN TRACKING SYSTEMS	74
G149	CONFIGURE PATCH PANELS FOR SPECIAL TEST OPERATIONS	72
S626	ISOLATE MALFUNCTIONS IN TRACKING DOWN CONVERTERS	72
S620	ALIGN TRACKING SYSTEMS	71
S619	ADJUST TRACKING SERVO CONTROL COMPONENTS	71
L348	ADJUST HIGH VOLTAGE POWER SUPPLY COMPONENTS	71
G148	CONFIGURE PATCH PANELS FOR RADIO FREQUENCY (RF) OPERATIONS	69
S628	ISOLATE MALFUNCTIONS IN TRACKING SERVO CONTROLS	69
G146	CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	69
G159	PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	67
H178	PERFORM TRACKING FUNCTIONS	67
L342	ADJUST DRIVER, INTERMEDIATE POWER, OR TRANSMIT INTER-FACILITY LINK AMPLIFIER COMPONENTS	67
K304	ISOLATE MALFUNCTIONS IN SOLID STATE DOWN CONVERTERS	66
S614	ADJUST ANTENNA DRIVE MOTOR COMPONENTS	66
H173	ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	66
H176	PERFORM ACQUISITION FUNCTIONS	66

TABLE X

REPRESENTATIVE TASKS PERFORMED BY COMMUNICATION RELAY CENTER PERSONNEL
(GRP504, N=23)

TASKS		PERCENT MEMBERS PERFORMING
N464	ADJUST FREQUENCY SHIFT CONVERTER COMPONENTS	100
N463	ADJUST FREQUENCY SHIFT KEYER COMPONENTS	100
N471	ISOLATE MALFUNCTIONS IN FREQUENCY SHIFT CONVERTERS	100
N472	ISOLATE MALFUNCTIONS IN FREQUENCY SHIFT KEYERS	100
N479	PERFORM PMIs ON TELETYPE MULTIPLEXER ASSOCIATED INTERFACE EQUIPMENT	96
N480	PERFORM PMIs ON TELETYPE MULTIPLEXERS	96
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	91
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	91
N461	ADJUST DIRECT CURRENT (DC) POWER SUPPLY COMPONENTS	91
U746	ISOLATE MALFUNCTIONS IN MAIN DISTRIBUTION FRAMES AND ASSOCIATED WIRING	87
N467	ADJUST TELETYPE MULTIPLEXER COMPONENTS	87
N466	ADJUST LOOP CURRENT CONTROL PANEL COMPONENTS	87
N477	ISOLATE MALFUNCTIONS IN TELETYPE MULTIPLEXERS	83
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	83
U749	ISOLATE MALFUNCTIONS IN PATCH PANELS	83
N469	ISOLATE MALFUNCTIONS IN BALLAST PANELS	83
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	78
U802	PERFORM PMIs ON MAIN DISTRIBUTION FRAMES AND ASSOCIATED WIRING	78
N476	ISOLATE MALFUNCTIONS IN POLAR DC POWER SUPPLIES	78
U689	ADJUST AMPLITUDE OR LINE EQUALIZER COMPONENTS	78
N465	ADJUST HUBBING OR MULTIPARTY EQUIPMENT COMPONENTS	74
U712	ADJUST LINE AMPLIFIER COMPONENTS	74
U745	ISOLATE MALFUNCTIONS IN LINE AMPLIFIERS	74
W836	CLEAN MAINTENANCE WORK AREAS	70
A5	DETERMINE WORK PRIORITIES	70
N474	ISOLATE MALFUNCTIONS IN LOOP CURRENT CONTROL PANELS	70
U692	ADJUST AUDIO AMPLIFIER COMPONENTS	70
M420	ADJUST GROUP OR LEVEL REGULATOR COMPONENTS	70
N473	ISOLATE MALFUNCTIONS IN HUBBING OR MULTIPARTY EQUIPMENT	65
M426	ADJUST TWO WIRE/FOUR WIRE CONVERSION AND TERMINATION CIRCUIT COMPONENTS	65
G163	PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	65
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	65
E120	MAKE ENTRIES ON MAINTENANCE FORMS	61
I204	ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	61

TABLE XI

REPRESENTATIVE TASKS PERFORMED BY JUNIOR WIDEBAND COMMUNICATIONS REPAIRMEN
(GRP239, N=27)

TASKS		PERCENT MEMBERS PERFORMING
W836	CLEAN MAINTENANCE WORK AREAS	89
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	85
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	85
I206	PERFORM CORROSION CONTROL	81
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	74
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MIRCO-MINIATURE COMPONENTS USING SOLDERING METHODS	70
E120	MAKE ENTRIES ON MAINTENANCE FORMS	67
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	63
W849	OPERATE HEAVY DUTY VEHICLES, SUCH AS 1 1/2-TON TRUCKS OR 10-TON TRACTOR-TRAILER COMBINATIONS	56
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	56
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	52
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	48
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	44
G155	OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	37
W853	PAINT EQUIPMENT OR FACILITIES	33
I190	CALIBRATE RADIO RELAY PECULIAR TEST EQUIPMENT	33
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	33
K335	PERFORM PMIs ON FM RECEIVERS	33
K292	ALIGN FM RECEIVERS	33
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	30
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	30
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	26
M426	ADJUST TWO WIRE/FOUR WIRE CONVERSION AND TERMINATION CIRCUIT COMPONENTS	26
G152	ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	26
U694	ADJUST AUTOMATIC FREQUENCY CONTROL (AFC) COMPONENTS	26
M427	ALIGN FREQUENCY DIVISION MULTIPLEXERS	22
L412	PERFORM PMIs ON FM SHF TRANSMITTERS, EXCITERS, OR UP CONVERTERS	22
E118	MAINTAIN TECHNICAL ORDER (TO) FILES	22
K281	ADJUST PILOT TONE DETECTOR COMPONENTS	22
U717	ADJUST PILOT TONE OSCILLATOR COMPONENTS	22
U725	ADJUST SYNTHESIZER COMPONENTS	19
W837	CLEAR MOBILITY WORK AREAS	19
I207	PERFORM SAFETY INSPECTIONS	19
I217	REMOVE OR REPLACE ELECTRONIC MICROMINIATURE COMPONENTS USING SOLDERING METHODS	19
V816	EMPLACE OR ANCHOR EQUIPMENT VANS OR SHELTERS	19

TABLE XII

REPRESENTATIVE TASKS PERFORMED BY JUNIOR GROUND RADIO MAINTENANCE PERSONNEL
(GRP257, N=22)

TASKS		PERCENT MEMBERS PERFORMING
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	95
W836	CLEAN MAINTENANCE WORK AREAS	91
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	91
I206	PERFORM CORROSION CONTROL	77
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	77
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MIRCROMINIATURE COMPONENTS USING SOLDERING METHODS	73
K286	ADJUST SQUELCH CIRCUIT COMPONENTS	73
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	68
K334	PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMIs) ON AM RECEIVERS	50
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	50
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	50
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	50
L409	PERFORM PMIs ON AM UHF TRANSMITTERS OR EXCITERS	45
E120	MAKE ENTRIES ON MAINTENANCE FORMS	45
K291	ALIGN AM RECEIVERS	45
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	45
K272	ADJUST AMPLITUDE MODULATION (AM) DETECTOR COMPONENTS	45
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	41
L359	ALIGN AM UHF TRANSMITTERS OR EXCITERS	36
K289	ADJUST ULTRA HIGH FREQUENCY (UHF) RECEIVE RF AMPLIFIER COMPONENTS	36
L355	ADJUST ULTRA HIGH FREQUENCY (UHF) POWER AMPLIFIER COMPONENTS	36
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	36
K303	ISOLATE MALFUNCTIONS IN SOLID STATE AM RECEIVERS	32
I204	ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	32
L368	ISOLATE MALFUNCTIONS IN AM SOLID STATE UHF TRANSMITTERS OR EXCITERS	32
I224	SPLICE WIRING OR CABLES	32
D89	CONDUCT OJT	32
W853	PAINT EQUIPMENT OR FACILITIES	27
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	27
K276	ADJUST HF RECEIVE RF AMPLIFIER COMPONENTS	27
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	27
I195	INSPECT SAFETY OF EQUIPMENT	27
I193	DETERMINE CRYSTAL FREQUENCY FOR DESIRED OPERATING FUNCTION BOXES	27
A5	DETERMINE WORK PRIORITIES	27

TABLE XIII

REPRESENTATIVE TASKS PERFORMED BY JUNIOR RADIO RELAY EQUIPMENT PERSONNEL
(GRP113, N=123)

TASKS		PERCENT MEMBERS PERFORMING
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	91
W836	CLEAN MAINTENANCE WORK AREAS	82
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	81
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	80
I206	PERFORM CORROSION CONTROL	74
G152	ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	63
G158	PERFORM BASEBAND SWEEPS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	63
K281	ADJUST PILOT TONE DETECTOR COMPONENTS	55
G155	OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	53
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	52
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	51
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	51
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	51
G163	PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	50
159	PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	49
E120	MAKE ENTRIES ON MAINTENANCE FORMS	48
W853	PAINT EQUIPMENT OR FACILITIES	48
K283	ADJUST RECEIVE COMBINER COMPONENTS	48
K335	PERFORM PMIs ON FM RECEIVERS	47
I195	INSPECT SAFETY OF EQUIPMENT	46
M427	ALIGN FREQUENCY DIVISION MULTIPLEXERS	44
K284	ADJUST RECEIVE INTERMEDIATE FREQUENCY (IF) AMPLIFIER COMPONENTS	44
K273	ADJUST AUTOMATIC GAIN CONTROL (AGC) COMPONENTS	43
G161	PERFORM EMERGENCY POWER CHANGEOVERS	42
G157	PERFORM ALTERNATE CIRCUIT ROUTING AT PATCH AND TEST FACILITIES	41
I207	PERFORM SAFETY INSPECTIONS	41
K292	ALIGN FM RECEIVERS	38
M420	ADJUST GROUP OR LEVEL REGULATOR COMPONENTS	37
W851	OPERATE POWER GENERATORS	36
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	36
M424	ADJUST PILOT TONE AMPLIFIER COMPONENTS	35
I224	SPLICE WIRING OR CABLES	35
M458	PERFORM PMIs ON FREQUENCY DIVISION MULTIPLEXERS	34
W859	PERFORM SITE SECURITY DUTIES	34

TABLE XIV

REPRESENTATIVE TASKS PERFORMED BY 2045TH SATELLITE COMMUNICATIONS GROUP PERSONNEL
(GRP328, N=18)

TASKS		PERCENT MEMBERS PERFORMING
H173	ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	100
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	94
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	94
H175	MONITOR SPACECRAFT TRANSPONDERS FOR TIME, POWER, OR FREQUENCY SHARING CONTROL	89
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	83
H176	PERFORM ACQUISITION FUNCTIONS	83
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	83
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	83
H180	SCHEDULE SATELLITE USERS	83
W836	CLEAN MAINTENANCE WORK AREAS	78
H178	PERFORM TRACKING FUNCTIONS	72
H179	REVIEW MISSION DATA FOR PREMISSION SETUPS	72
I193	DETERMINE CRYSTAL FREQUENCY FOR DESIRED OPERATING FUNCTION BOXES	72
G146	CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	72
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	72
I195	INSPECT SAFETY OF EQUIPMENT	67
G147	CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	67
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	61
G148	CONFIGURE PATCH PANELS FOR RADIO FREQUENCY (RF) OPERATIONS	56
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	56
W859	PERFORM SITE SECURITY DUTIES	50
I196	INSTALL OR REMOVE MOUNTING HARDWARE	50
G166	RUN TEST TAPES	50
H181	UPDATE STATION JOURNALS	44
G163	PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	44
I204	ISOLATE MALFUNCTIONS IN SYSTEMS TO SPECIFIC EQUIPMENT	44
G159	PERFORM CIRCUIT FAULT ISOLATION PROCEDURES AT PATCH AND TEST FACILITIES	44
I206	PERFORM CORROSION CONTROL	44
W862	SECURE CLASSIFIED MATERIALS	39
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	39
E120	MAKE ENTRIES ON MAINTENANCE FORMS	39
E112	COMPILE MAINTENANCE DATA	39
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	39
D89	CONDUCT OJT	39
G152	ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	39

TABLE XV

REPRESENTATIVE TASKS PERFORMED BY COMMUNICATIONS-ELECTRONICS PERSONNEL
(GRP434, N=11)

TASKS		PERCENT MEMBERS PERFORMING
P546	ISOLATE MALFUNCTIONS IN RECORDERS OR REPRODUCERS	100
P540	ADJUST RECORDER OR REPRODUCER SUBASSEMBLIES OR COMPONENTS	100
W836	CLEAN MAINTENANCE WORK AREAS	91
I206	PERFORM CORROSION CONTROL	91
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	91
I196	INSTALL OR REMOVE MOUNTING HARDWARE	91
P547	MECHANICALLY ALIGN RECORDERS OR REPRODUCERS	82
I217	REMOVE OR REPLACE ELECTRONIC MICROMINIATURE COMPONENTS USING SOLDERING METHODS	82
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	82
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING SOLDERING METHODS	82
P541	ELECTRICALLY ALIGN RECORDERS OR REPRODUCERS	82
U692	ADJUST AUDIO AMPLIFIER COMPONENTS	82
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
I216	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING METHODS OTHER THAN SOLDERING	73
I224	SPLICE WIRING OR CABLES	73
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	73
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	73
I207	PERFORM SAFETY INSPECTIONS	64
I195	INSPECT SAFETY OF EQUIPMENT	64
P552	PERFORM PMIs ON RECORDERS OR REPRODUCERS	64
I208	PERFORM SYSTEM MODIFICATIONS	64
U728	ALIGN SPEAKER SYSTEMS	64
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	64
U755	ISOLATE MALFUNCTIONS IN SOLID STATE AUDIO AMPLIFIERS	64
U770	ISOLATE MALFUNCTIONS IN SPEAKER SYSTEMS	64
P539	ADJUST PUBLIC ADDRESS SYSTEM COMPONENTS	64
P545	ISOLATE MALFUNCTIONS IN PUBLIC ADDRESS SYSTEMS	64
U710	ADJUST GENERAL PURPOSE POWER SUPPLY COMPONENTS	64
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	64
G166	RUN TEST TAPES	55
I213	REMOVE OR REPLACE ELECTROMECHANICAL SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	55
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	55
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	55

TABLE XVI

REPRESENTATIVE TASKS PERFORMED BY QUALITY CONTROL PERSONNEL
(GRP117, N=121)

TASKS		PERCENT MEMBERS PERFORMING
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	82
C64	EVALUATE CAPABILITY OF EQUIPMENT	80
B60	WRITE CORRESPONDENCE	79
C71	EVALUATE INSPECTION REPORTS OR PROCEDURES	76
A24	SCHEDULE INSPECTIONS	69
C68	EVALUATE EQUIPMENT OPERATIONAL, MAINTENANCE, OR REPAIR REPORTS	67
E123	PREPARE EVALUATION REPORTS	66
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	64
E121	PREPARE ACTIVITY REPORTS	58
E113	DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	58
C73	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	56
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	53
E122	PREPARE DEFICIENCY REPORTS	52
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	50
E114	MAINTAIN CORRESPONDENCE FILES	49
C75	EVALUATE SAFETY PROGRAMS	47
A9	DRAFT SUPPLEMENTS OR CHANGES TO DIRECTIVES	47
A7	DEVELOP WORK METHODS OR PROCEDURES	45
C65	EVALUATE CAUSES OF MISSION ABORTS OR OPERATIONAL DISCREPANCIES	45
C85	WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	45
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	44
E116	MAINTAIN PUBLICATION FILES	42
C74	EVALUATE PROCEDURES FOR STORAGE, INVENTORY, OR INSPECTION OF PROPERTY ITEMS	40
I195	INSPECT SAFETY OF EQUIPMENT	40
E118	MAINTAIN TECHNICAL ORDER (TO) FILES	40
A15	PLAN BRIEFINGS	40
I207	PERFORM SAFETY INSPECTIONS	39
F145	REVIEW TABLE OF ALLOWANCES (TA)	37
D106	EVALUATE TRAINING METHODS OR TECHNIQUES	36
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	36
E126	PREPARE REQUISITIONS FOR TECHNICAL ORDERS	36
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	36
A5	DETERMINE WORK PRIORITIES	35
C61	ANALYZE WORKLOAD REQUIREMENTS	34
C62	COMPARE PRODUCTION AGAINST PRODUCTION STANDARDS	33

TABLE XVII

REPRESENTATIVE TASKS PERFORMED BY FIRSTLINE MAINTENANCE SUPERVISORS
(GRP393, N=148)

TASKS		PERCENT MEMBERS PERFORMING
A5	DETERMINE WORK PRIORITIES	95
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	95
D89	CONDUCT OJT	94
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	91
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	91
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	89
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	89
E120	MAKE ENTRIES ON MAINTENANCE FORMS	88
C82	PREPARE APRs	88
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	88
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	88
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	87
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	84
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	84
A19	PLAN WORK ASSIGNMENTS	82
D91	CONDUCT PROFICIENCY TRAINING	82
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	82
A7	DEVELOP WORK METHODS OR PROCEDURES	82
D95	CONDUCT UPGRADE TRAINING	80
D98	DETERMINE OJT TRAINING REQUIREMENTS	79
I195	INSPECT SAFETY OF EQUIPMENT	78
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	78
I207	PERFORM SAFETY INSPECTIONS	78
A12	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	76
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	76
I206	PERFORM CORROSION CONTROL	76
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING SOLDERING METHODS	76
E115	MAINTAIN HISTORICAL RECORDS	74
A25	SCHEDULE LEAVES OR PASSES	74
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	74
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	74
W836	CLEAN MAINTENANCE WORK AREAS	73
F144	RESEARCH SUPPLY CATALOGS	72
E117	MAINTAIN STATUS BOARDS OR CHARTS	72

TABLE XVIII

REPRESENTATIVE TASKS PERFORMED BY NCOICs, JOB CONTROL
(GRP564, N=41)

TASKS		PERCENT MEMBERS PERFORMING
E117	MAINTAIN STATUS BOARDS OR CHARTS	100
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	95
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	95
A5	DETERMINE WORK PRIORITIES	93
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	88
E120	MAKE ENTRIES ON MAINTENANCE FORMS	83
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	83
C82	PREPARE APRs	83
B60	WRITE CORRESPONDENCE	78
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	76
A15	PLAN BRIEFINGS	73
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	73
B28	COORDINATE CANNIBALIZATION OF EQUIPMENT PARTS WITH APPROPRIATE AGENCIES	73
D89	CONDUCT OJT	68
D91	CONDUCT PROFICIENCY TRAINING	68
E112	COMPILE MAINTENANCE DATA	66
A7	DEVELOP WORK METHODS OR PROCEDURES	66
A25	*SCHEDULE LEAVES OR PASSES*	66
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	63
E114	MAINTAIN CORRESPONDENCE FILES	63
A12	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	63
E127	PREPARE STATUS REPORTS	61
B30	DIRECT CONTROL OF CLASSIFIED MATERIALS	61
A19	PLAN WORK ASSIGNMENTS	61
B55	SUPERVISE MILITARY PERSONNEL WITH AFSs OTHER THAN 304X0, 304X4, OR 304X6	56
B47	MAINTAIN CONTINGENCY PLANS	54
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	54
E116	MAINTAIN PUBLICATION FILES	51
A9	DRAFT SUPPLEMENTS OR CHANGES TO DIRECTIVES	49
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	49
B35	DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	46
C80	INDORSE AIRMAN PERFORMANCE REPORTS (APR)	46
C68	EVALUATE EQUIPMENT OPERATIONAL, MAINTENANCE, OR REPAIR REPORTS	44
C79	EVALUATE WORK SCHEDULES	41
D98	DETERMINE OJT TRAINING REQUIREMENTS	41

TABLE XIX

REPRESENTATIVE TASKS PERFORMED BY RADIO MAINTENANCE SUPERVISORS
(GRP650, N=160)

TASKS		PERCENT MEMBERS PERFORMING
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	98
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	96
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	94
C82	PREPARE APRs	93
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	89
A25	SCHEDULE LEAVES OR PASSES	89
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	89
A5	DETERMINE WORK PRIORITIES	88
A19	PLAN WORK ASSIGNMENTS	87
A1	ASSIGN PERSONNEL TO DUTY POSITIONS	87
A12	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	86
C71	EVALUATE INSPECTION REPORTS OR PROCEDURES	83
A7	DEVELOP WORK METHODS OR PROCEDURES	83
C80	INDORSE AIRMAN PERFORMANCE REPORTS (APR)	79
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	77
E114	MAINTAIN CORRESPONDENCE FILES	77
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	77
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	76
C73	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	75
D87	ASSIGN ON-THE-JOB TRAINING (OJT) TRAINERS	75
D98	DETERMINE OJT TRAINING REQUIREMENTS	74
B35	DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	74
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	72
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	71
C83	SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	71
B44	INITIATE PERSONNEL ACTION REQUESTS	71
B41	IMPLEMENT SAFETY PROGRAMS	70
C68	EVALUATE EQUIPMENT OPERATIONAL, MAINTENANCE, OR REPAIR REPORTS	69
C79	EVALUATE WORK SCHEDULES	69
A10	ESTABLISH EQUIPMENT MAINTENANCE REQUIREMENTS	66
C61	ANALYZE WORKLOAD REQUIREMENTS	66
E117	MAINTAIN STATUS BOARDS OR CHARTS	66
C69	EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION	66
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	66
C64	EVALUATE CAPABILITY OF EQUIPMENT	65

TABLE XX

REPRESENTATIVE TASKS PERFORMED BY RESIDENT TRAINING SUPERVISORS
(GRP711, N=10)

TASKS		PERCENT MEMBERS PERFORMING
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	100
D106	EVALUATE TRAINING METHODS OR TECHNIQUES	100
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	100
C82	PREPARE APRs	100
D88	ASSIGN RESIDENT COURSE INSTRUCTORS	100
D93	CONDUCT RESIDENT COURSE CLASSROOM TRAINING	100
D105	EVALUATE PROGRESS OF STUDENTS	90
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	90
D86	ADMINISTER TESTS	90
A19	PLAN WORK ASSIGNMENTS	90
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	90
A25	SCHEDULE LEAVES OR PASSES	90
A1	ASSIGN PERSONNEL TO DUTY POSITIONS	90
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	90
D109	SCORE TESTS	80
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	80
A7	DEVELOP WORK METHODS OR PROCEDURES	80
D99	DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	70
D108	PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	70
D91	CONDUCT PROFICIENCY TRAINING	70
A12	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	70
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	70
C71	EVALUATE INSPECTION REPORTS OR PROCEDURES	70
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	70
D110	WRITE TEST QUESTIONS	60
B52	SUPERVISE CIVILIAN PERSONNEL	60
C84	WRITE CIVILIAN PERFORMANCE RATINGS OR SUPERVISORY APPRAISALS	60
B60	WRITE CORRESPONDENCE	60
E114	MAINTAIN CORRESPONDENCE FILES	60
C83	SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	60
D95	CONDUCT UPGRADE TRAINING	60
A15	PLAN BRIEFINGS	60
A5	DETERMINE WORK PRIORITIES	60
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	60
D101	DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	50

TABLE XXI

REPRESENTATIVE TASKS PERFORMED BY TOOL CRIB SUPERVISORS
(GRP442, N=12)

TASKS		PERCENT MEMBERS PERFORMING
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	100
C82	PREPARE APRs	100
A5	DETERMINE WORK PRIORITIES	100
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	92
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	92
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	83
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	83
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	83
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	75
E115	MAINTAIN HISTORICAL RECORDS	75
E117	MAINTAIN STATUS BOARDS OR CHARTS	75
A19	PLAN WORK ASSIGNMENTS	75
E113	DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	67
B38	DIRECT SUPPLY FUNCTIONS OR TOOL CRIB OPERATIONS	67
F144	RESEARCH SUPPLY CATALOGS	67
F138	MAINTAIN OFFICE SUPPLIES	67
E120	MAKE ENTRIES ON MAINTENANCE FORMS	67
E114	MAINTAIN CORRESPONDENCE FILES	58
F128	COORDINATE EQUIPMENT CALIBRATION WITH PRECISION MEASUREMENT EQUIPMENT LABORATORIES (PMEL)	58
F134	MAINTAIN BENCHSTOCKS	58
B34	DIRECT MAINTENANCE CREW ACTIVITIES	58
B35	DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	58
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	58
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	58
I207	PERFORM SAFETY INSPECTIONS	58
F145	REVIEW TABLE OF ALLOWANCES (TA)	58
A2	ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	58
E112	COMPILE MAINTENANCE DATA	50
B56	SUPERVISE RADIO RELAY EQUIPMENT (WIDEBAND COMMUNICATIONS EQUIPMENT) SPECIALISTS (AFSC 30450)	50
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	50
W848	MAINTAIN TOOL CRIBS	50
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	50
C73	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	50
F139	MAINTAIN PMEL CALIBRATION CHARTS	42
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	42

TABLE XXII

REPRESENTATIVE TASKS PERFORMED BY SATELLITE COMMUNICATIONS CREW CHIEFS
(GRP466, N=15)

TASKS		PERCENT MEMBERS PERFORMING
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	100
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	100
D95	CONDUCT UPGRADE TRAINING	93
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	93
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	87
D89	CONDUCT OJT	87
D91	CONDUCT PROFICIENCY TRAINING	87
A25	SCHEDULE LEAVES OR PASSES	87
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	87
B58	SUPERVISE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/ SPECIALISTS (AFSC 30456)	80
A19	PLAN WORK ASSIGNMENTS	80
A5	DETERMINE WORK PRIORITIES	80
C82	PREPARE APRs	80
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	73
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	73
I207	PERFORM SAFETY INSPECTIONS	73
B51	SUPERVISE APPRENTICE SPACE COMMUNICATIONS SYSTEMS EQUIPMENT OPERATOR/SPECIALISTS (AFSC 30436)	67
B36	DIRECT OPERATIONAL CREW ACTIVITIES	67
B34	DIRECT MAINTENANCE CREW ACTIVITIES	67
D87	ASSIGN ON-THE-JOB TRAINING (OJT) TRAINERS	67
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	67
A7	DEVELOP WORK METHODS OR PROCEDURES	67
I195	INSPECT SAFETY OF EQUIPMENT	67
G163	PERFORM SWITCHOVERS OF EQUIPMENT SUBASSEMBLIES TO REDUNDANT EQUIPMENT	67
D98	DETERMINE OJT TRAINING REQUIREMENTS	60
G155	OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	60
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	60
D102	DIRECT OR IMPLEMENT OJT PROGRAMS	60
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	60
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	60
A12	ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	53
A10	ESTABLISH EQUIPMENT MAINTENANCE REQUIREMENTS	53
H173	ESTABLISH COMMUNICATION LINKS THROUGH SPACECRAFT	53
A1	ASSIGN PERSONNEL TO DUTY POSITIONS	53
B44	INITIATE PERSONNEL ACTION REQUESTS	53
B30	DIRECT CONTROL OF CLASSIFIED MATERIALS	53

TABLE XXIII

REPRESENTATIVE TASKS PERFORMED BY BASE INSTALLATION SECURITY SYSTEM PERSONNEL
(GRP232, N=75)

TASKS		PERCENT MEMBERS PERFORMING
W836	CLEAN MAINTENANCE WORK AREAS	93
T668	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM FENCE DISTURBANCE SENSOR SYSTEM	92
T659	ISOLATE MALFUNCTIONS IN PERIMETER SECURITY SYSTEMS	92
T638	ADJUST SECURITY SYSTEM FENCE DISTURBANCE SENSOR SYSTEM COMPONENTS	91
T633	ADJUST SECURITY SYSTEM AREA SENSOR SYSTEM COMPONENTS	87
T687	PERFORM PREVENTIVE MAINTENANCE INSPECTIONS (PMIs) ON PERIMETER SECURITY SYSTEMS	84
T663	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM AREA SENSOR SYSTEMS	80
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	79
T661	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM ANNUNCIATORS	79
E120	MAKE ENTRIES ON MAINTENANCE FORMS	72
T657	ALIGN PERIMETER SECURITY SYSTEMS	72
T632	ADJUST SECURITY SYSTEM ANNUNCIATOR COMPONENTS	72
T635	ADJUST SECURITY SYSTEM CONTROL POWER SUPPLY COMPONENTS	72
I206	PERFORM CORROSION CONTROL	69
T680	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM SENSOR DATA DECODERS	69
T666	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM DIGITAL DATA RECEIVERS	67
T653	ADJUST SECURITY SYSTEM TELEVISION MONITOR COMPONENTS	63
T676	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM OPERATOR SENSOR DATA CONTROL INDICATOR CONSOLES	63
T665	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM CONTROL POWER SUPPLIES	63
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	61
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	61
T678	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM SEISMIC SENSOR SYSTEMS	60
T682	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM TELEVISION CAMERAS	60
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING SOLDERING METHODS	60
T652	ADJUST SECURITY SYSTEM TELEVISION CAMERA COMPONENTS	59
T679	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM SENSOR MULTIPLEXERS	59
T683	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM TELEVISION MONITORS	57
T636	ADJUST SECURITY SYSTEM DIGITAL DATA RECEIVER COMPONENTS	57
T673	ISOLATE MALFUNCTIONS IN SECURITY SYSTEM LINE SENSOR SYSTEMS	56
I198	ISOLATE MALFUNCTIONS IN ANTI-INTRUSION PECULIAR TEST EQUIPMENT	56
I224	SPLICE WIRING OR CABLES	55
T649	ADJUST SECURITY SYSTEM SENSOR DATA DECODER COMPONENTS	55
T655	ADJUST SECURITY SYSTEM TELEVISION VIDEO AMPLIFIER COMPONENTS	53
T644	ADJUST SECURITY SYSTEM LINE SENSOR SYSTEM COMPONENTS	52

TABLE XXIV

REPRESENTATIVE TASKS PERFORMED BY MOBILE ENGINEERING AND INSTALLATION PERSONNEL
(GRP273, N=14)

TASKS		PERCENT MEMBERS PERFORMING
W836	CLEAN MAINTENANCE WORK AREAS	100
W853	PAINT EQUIPMENT OR FACILITIES	93
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	93
W837	CLEAR MOBILITY WORK AREAS	64
W849	OPERATE HEAVY DUTY VEHICLES, SUCH AS 1 1/2-TON TRUCKS OR 10-TON TRACTOR-TRAILER COMBINATIONS	64
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	64
V825	INSTALL OR REMOVE MOBILE COMMUNICATION EQUIPMENT	57
I206	PERFORM CORROSION CONTROL	50
V816	EMPLACE OR ANCHOR EQUIPMENT VANS OR SHELTERS	43
V818	INSTALL OR REMOVE CABLING BETWEEN SITE VANS	36
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	36
W859	PERFORM SITE SECURITY DUTIES	29
I224	SPLICE WIRING OR CABLES	29
W851	OPERATE POWER GENERATORS	29
V830	LOAD OR UNLOAD SUPPORT EQUIPMENT ON AIRCRAFT	29
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	29
W858	PERFORM OPERATOR MAINTENANCE ON POWERED VEHICLES	21
W854	PERFORM OPERATOR MAINTENANCE ON GROUND SUPPORT EQUIPMENT	21
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	21
W839	LUBRICATE VAN OR TRAILER CHASSIS	21
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	21
M427	ALIGN FREQUENCY DIVISION MULTIPLEXERS	21
V813	CONSTRUCT SITE LATRINES	21
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	21
M458	PERFORM PMIs ON FREQUENCY DIVISION MULTIPLEXERS	21
V835	VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF INSTALLED EQUIPMENT	21
I219	REMOVE OR REPLACE ELETRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	21
G152	ESTABLISH ORDERWIRE CONTACT WITH DISTANT TERMINALS	21
K286	ADJUST SQUELCH CIRCUIT COMPONENTS	21
K288	ADJUST THRESHOLD EXTENDER COMPONENTS	21
K848	MAINTAIN TOOL CRIBS	14
W862	SECURE CLASSIFIED MATERIALS	14
I212	REMOVE OR REPLACE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING	14
K292	ALIGN FM RECEIVERS	14
W847	MAINTAIN SITE HEATING SYSTEMS	14

TABLE XXV

REPRESENTATIVE TASKS PERFORMED BY FIXED ENGINEERING AND INSTALLATION PERSONNEL
(GRP154, N=40)

TASKS		PERCENT MEMBERS PERFORMING
V820	INSTALL OR REMOVE FIXED COMMUNICATION EQUIPMENT	88
I196	INSTALL OR REMOVE MOUNTING HARDWARE	72
V808	ASSEMBLE SYSTEMS OR SUBSYSTEMS FROM COMPONENT PARTS	70
I205	LACE CABLE ASSEMBLIES OR INTERNAL WIRING	67
W836	CLEAN MAINTENANCE WORK AREAS	57
V819	INSTALL OR REMOVE COMMUNICATIONS OR CONTROL TOWERS	50
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	50
I224	SPLICE WIRING OR CABLES	50
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	47
I192	CRATE OR UNCRATE COMPONENTS OR MODULES	45
I215	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICROMINIATURE COMPONENTS USING SOLDERING METHODS	45
V835	VISUALLY INSPECT INSTALLATION AND INTERCONNECTIONS OF INSTALLED EQUIPMENT	38
V810	CONSTRUCT CABLE TROUGHS	38
W853	PAINT EQUIPMENT OR FACILITIES	35
V822	INSTALL OR REMOVE INTERMEDIATE DISTRIBUTION FRAMES (IDF)	35
V824	INSTALL OR REMOVE MAIN DISTRIBUTION FRAMES (MDF)	32
I220	REMOVE OR REPLACE MECHANICAL COMPONENTS	32
I221	REMOVE OR REPLACE MECHANICAL SUBASSEMBLIES	32
I218	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES, SUCH AS MODULES OR PRINTED CIRCUIT BOARDS, USING SOLDERING METHODS	32
I219	REMOVE OR REPLACE ELECTRONIC SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	32
I216	REMOVE OR REPLACE ELECTRONIC COMPONENTS OTHER THAN MICRO-MINIATURE COMPONENTS USING METHODS OTHER THAN SOLDERING	30
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	30
V812	CONSTRUCT INTERCONNECTS	27
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	27
I195	INSPECT SAFETY OF EQUIPMENT	25
I208	PERFORM SYSTEM MODIFICATIONS	25
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	25
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	22
I213	REMOVE OR REPLACE ELECTROMECHANICAL SUBASSEMBLIES USING METHODS OTHER THAN SOLDERING	20
I206	PERFORM CORROSION CONTROL	17
V809	CHECK LAND LINE CONNECTIONS	17
I207	PERFORM SAFETY INSPECTIONS	17
V823	INSTALL OR REMOVE LINE CONDITIONING EQUIPMENT	17
I212	REMOVE OR REPLACE ELECTROMECHANICAL COMPONENTS USING METHODS OTHER THAN SOLDERING	15
I209	POSITION SAFETY EQUIPMENT	15

TABLE XXVI

REPRESENTATIVE TASKS PERFORMED BY RESIDENT TECHNICAL SCHOOL INSTRUCTORS
(GRP243, N=77)

TASKS		PERCENT MEMBERS PERFORMING
D109	SCORE TESTS	100
D93	CONDUCT RESIDENT COURSE CLASSROOM TRAINING	97
D86	ADMINISTER TESTS	95
D105	EVALUATE PROGRESS OF STUDENTS	92
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	79
D110	WRITE TEST QUESTIONS	65
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	61
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	58
D92	CONDUCT REMEDIAL TRAINING	58
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	56
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	48
D106	EVALUATE TRAINING METHODS OR TECHNIQUES	40
D108	PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	29
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	25
D101	DEVELOP RESIDENT COURSE OR CAREER DEVELOPMENT COURSE (CDC) CURRICULUM MATERIALS	25
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	25
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	22
D91	CONDUCT PROFICIENCY TRAINING	19
D103	DIRECT OR IMPLEMENT TRAINING PROGRAMS OTHER THAN CJT	18
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	18
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	18
D99	DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	17
I195	INSPECT SAFETY OF EQUIPMENT	16
E118	MAINTAIN TECHNICAL ORDER (TO) FILES	13
C64	EVALUATE CAPABILITY OF EQUIPMENT	13
D111	WRITE TRAINING REPORTS	12
E120	MAKE ENTRIES ON MAINTENANCE FORMS	12
B60	WRITE CORRESPONDENCE	12
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	10
A7	DEVELOP WORK METHODS OR PROCEDURES	10
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	10
M427	ALIGN FREQUENCY DIVISION MULTIPLEXERS	10
A15	PLAN BRIEFINGS	10
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	9
B41	IMPLEMENT SAFETY PROGRAMS	9

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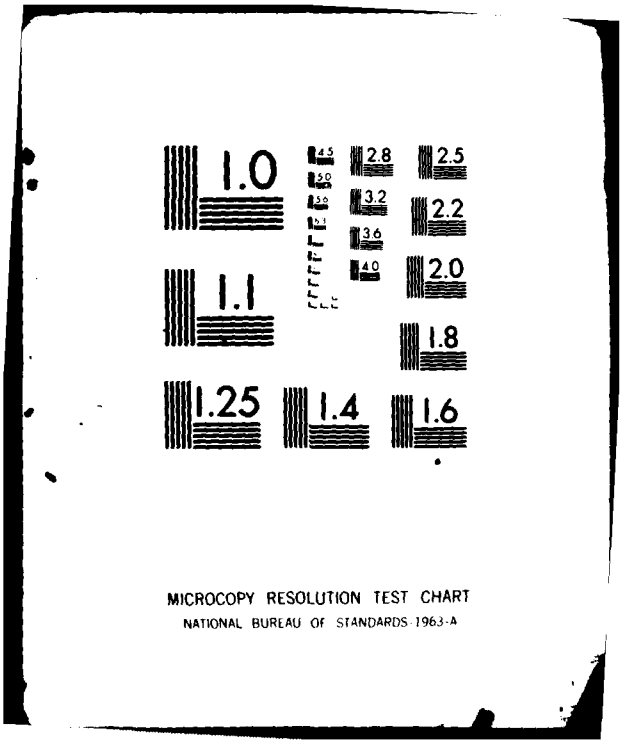
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TABLE XXVII

REPRESENTATIVE TASKS PERFORMED BY INSTRUCTORS AND MAINTENANCE PERSONNEL
(GRP227, N=19)

TASKS		PERCENT MEMBERS PERFORMING
D105	EVALUATE PROGRESS OF STUDENTS	95
D106	EVALUATE TRAINING METHODS OR TECHNIQUES	95
D86	ADMINISTER TESTS	89
D108	PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT	89
D92	CONDUCT REMEDIAL TRAINING	89
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	89
D109	SCORE TESTS	89
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	84
D110	WRITE TEST QUESTIONS	84
G165	READ METERS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	84
D93	CONDUCT RESIDENT COURSE CLASSROOM TRAINING	79
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	79
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	79
D91	CONDUCT PROFICIENCY TRAINING	68
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	68
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	68
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	68
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	63
I195	INSPECT SAFETY OF EQUIPMENT	63
G162	PERFORM PREOPERATIONAL CHECKS OF EQUIPMENT	53
D99	DETERMINE RESIDENT COURSE TRAINING REQUIREMENTS	53
A7	DEVELOP WORK METHODS OR PROCEDURES	53
I207	PERFORM SAFETY INSPECTIONS	53
D111	WRITE TRAINING REPORTS	47
G146	CONFIGURE PATCH PANELS FOR ANALOG OPERATIONS	47
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	42
D89	CONDUCT OJT	42
D94	CONDUCT SPECIAL TRAINING CONFERENCES OR BRIEFINGS	42
C64	EVALUATE CAPABILITY OF EQUIPMENT	42
G155	OBSERVE STATUS DISPLAY PANELS TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	42
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	42
N464	ADJUST FREQUENCY SHIFT CONVERTER COMPONENTS	42
N463	ADJUST FREQUENCY SHIFT KEYER COMPONENTS	42
D95	CONDUCT UPGRADE TRAINING	37
G147	CONFIGURE PATCH PANELS FOR DIGITAL OPERATIONS	37

TABLE XXVIII

REPRESENTATIVE TASKS PERFORMED BY JOB CONTROLLERS
(GRP491, N=58)

TASKS		PERCENT MEMBERS PERFORMING
E117	MAINTAIN STATUS BOARDS OR CHARTS	97
A5	DETERMINE WORK PRIORITIES	88
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	86
E112	COMPILE MAINTENANCE DATA	69
E120	MAKE ENTRIES ON MAINTENANCE FORMS	67
E127	PREPARE STATUS REPORTS	53
B28	COORDINATE CANNIBALIZATION OF EQUIPMENT PARTS WITH APPROPRIATE AGENCIES	48
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	41
A15	PLAN BRIEFINGS	40
B34	DIRECT MAINTENANCE CREW ACTIVITIES	31
D89	CONDUCT OJT	31
F130	COORDINATE REPAIR OF EQUIPMENT WITH VENDORS OR OTHER AGENCIES	28
W862	SECURE CLASSIFIED MATERIALS	28
B30	DIRECT CONTROL OF CLASSIFIED MATERIALS	22
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	19
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	17
C82	PREPARE APRs	17
E116	MAINTAIN PUBLICATION FILES	17
B37	DIRECT PREMISSION CHECKOUT OF EQUIPMENT OR MATERIALS	14
W836	CLEAN MAINTENANCE WORK AREAS	14
A24	SCHEDULE INSPECTIONS	14
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	14
E118	MAINTAIN TECHNICAL ORDER (TO) FILES	10
A21	PREPARE MAINTENANCE ACTIVITY SCHEDULES	10
E113	DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	10
D96	COUNSEL TRAINEES ON TRAINING PROGRESS	10
A26	SCHEDULE USE OF EQUIPMENT	9
B55	SUPERVISE MILITARY PERSONNEL WITH AFSs OTHER THAN 304X0, 304X4, OR 304X6	9
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	9
A19	PLAN WORK ASSIGNMENTS	9
C61	ANALYZE WORKLOAD REQUIREMENTS	9
C64	EVALUATE CAPABILITY OF EQUIPMENT	9
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	9
A22	PREPARE MAINTENANCE SCHEDULES	9
G151	ESTABLISH COMMUNICATION USER PRIORITIES	7

TABLE XXIX

REPRESENTATIVE TASKS PERFORMED BY PLANS AND SCHEDULING PERSONNEL
(GRP481, N=14)

TASKS		PERCENT MEMBERS PERFORMING
B60	WRITE CORRESPONDENCE	100
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	93
E112	COMPILE MAINTENANCE DATA	93
E113	DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	79
E114	MAINTAIN CORRESPONDENCE FILES	71
A5	DETERMINE WORK PRIORITIES	71
A24	SCHEDULE INSPECTIONS	64
A21	PREPARE MAINTENANCE ACTIVITY SCHEDULES	64
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	64
A26	SCHEDULE USE OF EQUIPMENT	57
E117	MAINTAIN STATUS BOARDS OR CHARTS	57
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	57
A22	PREPARE MAINTENANCE SCHEDULES	57
E116	MAINTAIN PUBLICATION FILES	50
A7	DEVELOP WORK METHODS OR PROCEDURES	50
E120	MAKE ENTRIES ON MAINTENANCE FORMS	43
E118	MAINTAIN TECHNICAL ORDER (TO) FILES	36
B35	DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	36
E127	PREPARE STATUS REPORTS	36
C82	PREPARE APRs	36
D89	CONDUCT OJT	36
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	29
E115	MAINTAIN HISTORICAL RECORDS	29
F130	COORDINATE REPAIR OF EQUIPMENT WITH VENDORS OR OTHER AGENCIES	29
A9	DRAFT SUPPLEMENTS OR CHANGES TO DIRECTIVES	29
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	29
B29	COUNSEL PERSONNEL ON PERSONAL OR MILITARY RELATED PROBLEMS	29
B28	COORDINATE CANNIBALIZATION OF EQUIPMENT PARTS WITH APPROPRIATE AGENCIES	29
B45	INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	21
A19	PLAN WORK ASSIGNMENTS	21
A15	PLAN BRIEFINGS	21
C71	EVALUATE INSPECTION REPORTS OR PROCEDURES	21
F138	MAINTAIN OFFICE SUPPLIES	21
C61	ANALYZE WORKLOAD REQUIREMENTS	21

TABLE XXX

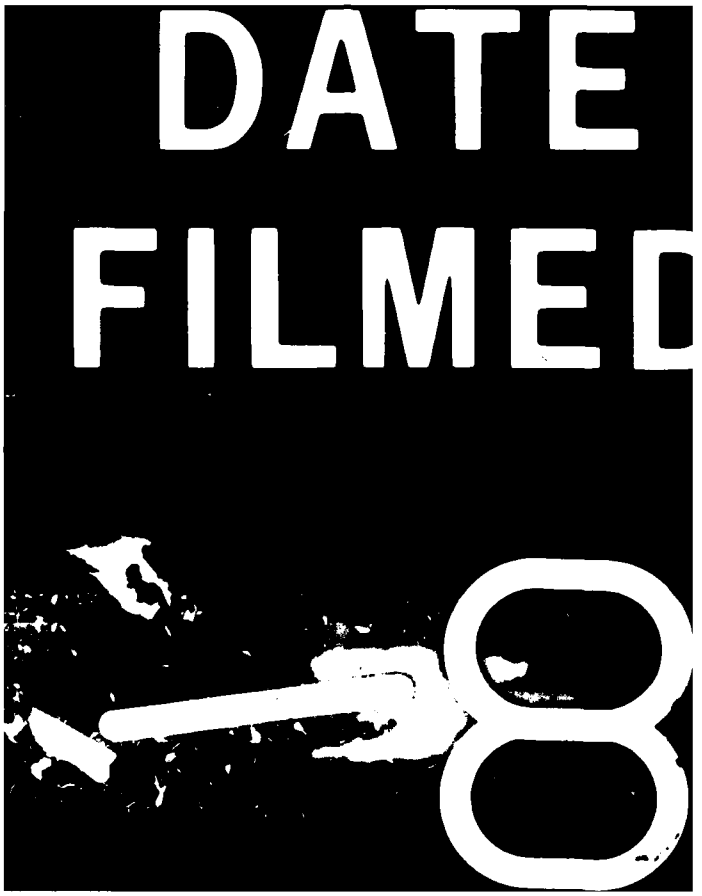
REPRESENTATIVE TASKS PERFORMED BY SUPPLY PERSONNEL
(GRP291, N=10)

TASKS		PERCENT MEMBERS PERFORMING
F134	MAINTAIN BENCHSTOCKS	100
F144	RESEARCH SUPPLY CATALOGS	90
F141	PREPARE NONREPARABLE OR REPARABLE ITEMS FOR TURN-IN	90
F142	PREPARE REQUISITIONS FOR PARTS, TOOLS, OR SUPPLIES	80
B46	INVENTORY EQUIPMENT, TOOLS, OR SUPPLIES	80
B38	DIRECT SUPPLY FUNCTIONS OR TOOL CRIB OPERATIONS	60
F135	MAINTAIN EQUIPMENT ACCOUNTABILITY RECORDS	60
F139	MAINTAIN PMEL CALIBRATION CHARTS	60
E117	MAINTAIN STATUS BOARDS OR CHARTS	60
F129	COORDINATE LOCAL PURCHASES WITH MAINTENANCE OFFICERS OR BASE SUPPLY	60
F137	MAINTAIN INVENTORY RECORDS	50
F128	COORDINATE EQUIPMENT CALIBRATION WITH PRECISION MEASUREMENT EQUIPMENT LABORATORIES (PMEL)	50
F140	MAINTAIN SPARE PART SUPPLY LEVELS OTHER THAN BENCHSTOCK OR FORWARD SUPPLY POINTS	50
B37	DIRECT PREMISSION CHECKOUT OF EQUIPMENT OR MATERIALS	50
F136	MAINTAIN FORWARD SUPPLY POINTS	40
F138	MAINTAIN OFFICER SUPPLIES	40
E120	MAKE ENTRIES ON MAINTENANCE FORMS	40
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	40
F143	PREPARE SUPPLY DIFFICULTY REPORTS, SUCH AS QUALITY DEFICIENCY REPORTS (QDRs)	40
A5	DETERMINE WORK PRIORITIES	40
F130	COORDINATE REPAIR OF EQUIPMENT WITH VENDORS OR OTHER AGENCIES	40
E112	COMPILE MAINTENANCE DATA	30
I191	CONSTRUCT SHOP CABLES OR TEST PLUGS	30
F131	COORDINATE SHIPPING OR RECEIVING WITH GOVERNMENT CALIBRATION FACILITIES	30
D89	CONDUCT OJT	30
A15	PLAN BRIEFINGS	30
B49	SUPERVISE APPRENTICE GROUND BASE RADIO COMMUNICATIONS SPECIALISTS (AFSC 30434)	20
E118	MAINTAIN TECHNICAL ORDER (TO) FILES	20
F145	REVIEW TABLE OF ALLOWANCES (TA)	20
A4	DETERMINE REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	20
G164	PERFORM TURN-ON OR TURN-OFF PROCEDURES	20
A22	PREPARE MAINTENANCE SCHEDULES	20
G156	OBSERVE TEST EQUIPMENT, SUCH AS SCOPES OR SIGNAL ANALYZERS, TO DETERMINE EQUIPMENT OPERATION OR SIGNAL QUALITY	20
A26	SCHEDULE USE OF EQUIPMENT	20
B33	DIRECT DEVELOPMENT OR MAINTENANCE OF STATUS BOARDS, GRAPHS, OR CHARTS	20

TABLE XXXI

REPRESENTATIVE TASKS PERFORMED BY LIMITED EXPERIENCE QUALITY CONTROL PERSONNEL (GRP464, N=10)

TASKS		PERCENT MEMBERS PERFORMING
E188	MAINTAIN TECHNICAL ORDER (TO) FILES	90
E121	PREPARE ACTIVITY REPORTS	90
E126	PREPARE REQUISITIONS FOR TECHNICAL ORDERS	90
A24	SCHEDULE INSPECTIONS	90
E123	PREPARE EVALUATION REPORTS	80
E116	MAINTAIN PUBLICATION FILES	70
A3	COORDINATE WORK ACTIVITIES WITH OTHER UNITS OR AGENCIES	60
C66	EVALUATE COMPLIANCE WITH PERFORMANCE STANDARDS	50
E114	MAINTAIN CORRESPONDENCE FILES	50
E122	PREPARE DEFICIENCY REPORTS	50
B60	WRITE CORRESPONDENCE	50
B35	DIRECT MAINTENANCE OF ADMINISTRATIVE, PUBLICATION, OR TECHNICAL ORDER FILES	40
E125	PREPARE REQUISITIONS FOR PUBLICATIONS	40
E113	DISTRIBUTE CORRESPONDENCE, TECHNICAL INFORMATION, OR DIRECTIVES	40
C71	EVALUATE INSPECTION REPORTS OR PROCEDURES	40
C73	EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	40
D107	MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS	30
D97	DEMONSTRATE HOW TO LOCATE NONTECHNICAL OR TECHNICAL INFORMATION	30
A11	ESTABLISH ORGANIZATIONAL POLICIES, OFFICE INSTRUCTIONS (OI), OR STANDARD OPERATING PROCEDURES (SOP)	30
C83	SELECT INDIVIDUALS FOR SPECIALIZED TRAINING	20
C68	EVALUATE EQUIPMENT OPERATIONAL, MAINTENANCE, OR REPAIR REPORTS	20
C64	EVALUATE CAPABILITY OF EQUIPMENT	20
W852	OPERATE SMALL GOVERNMENT VEHICLES, SUCH AS PICKUPS OR PASSENGER VEHICLES	20
A13	ESTABLISH PUBLICATION LIBRARIES	20
W853	PAINT EQUIPMENT OR FACILITIES	10
B55	SUPERVISE MILITARY PERSONNEL WITH AFSs OTHER THAN 304X0, 304X4, OR 304X6	10
C75	EVALUATE SAFETY PROGRAMS	10
C65	EVALUATE CAUSES OF MISSION ABORTS OR OPERATIONAL DISCREPANCIES	10
C67	EVALUATE CONTRACT DATA REQUIREMENT LISTINGS (CDRL)	10
I207	PERFORM SAFETY INSPECTIONS	10
W855	PERFORM OPERATOR MAINTENANCE ON HAND OR AUTOMATIC WEAPONS	10
W859	PERFORM SITE SECURITY DUTIES	10
W863	SECURE WEAPONS	10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